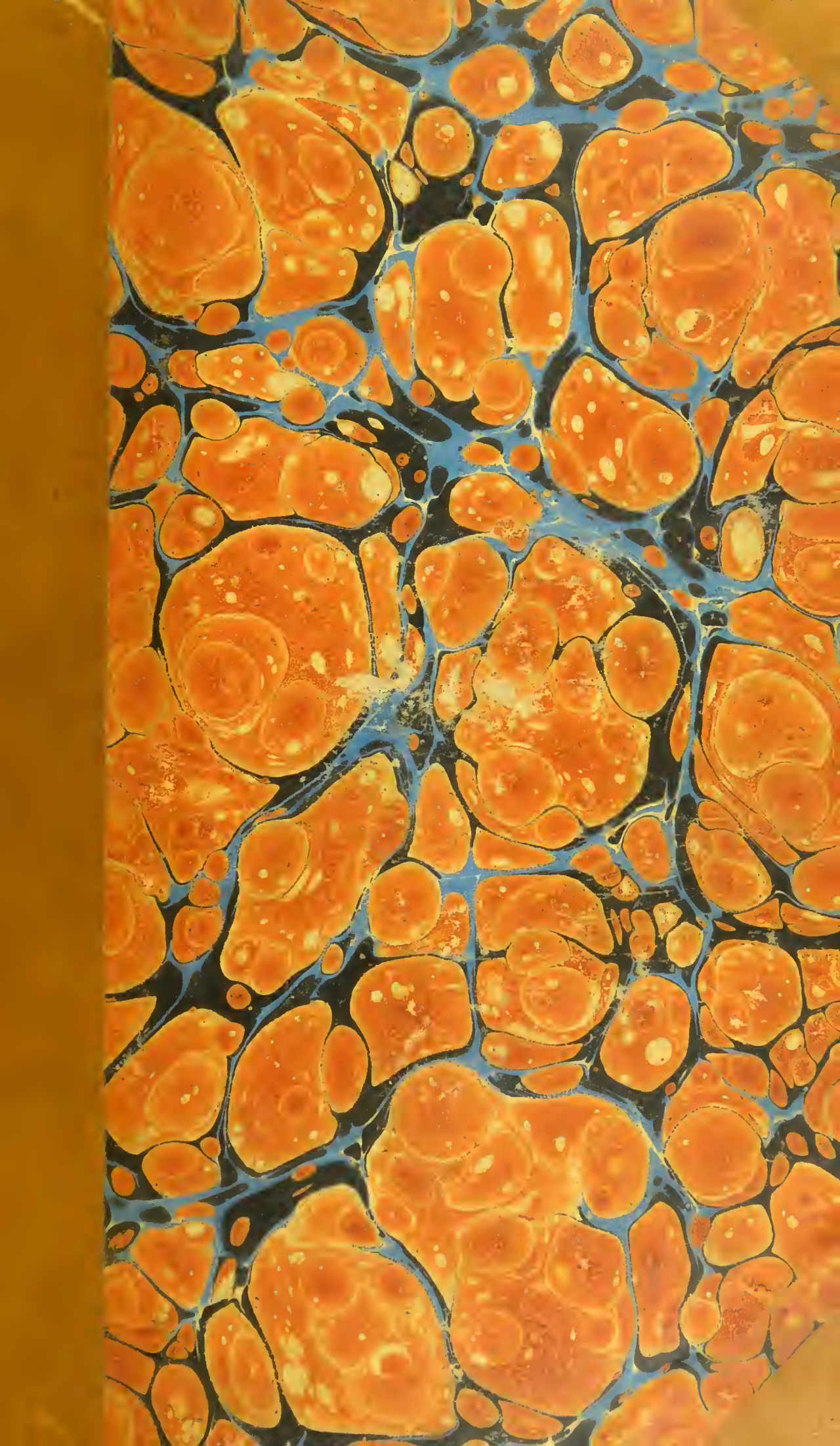
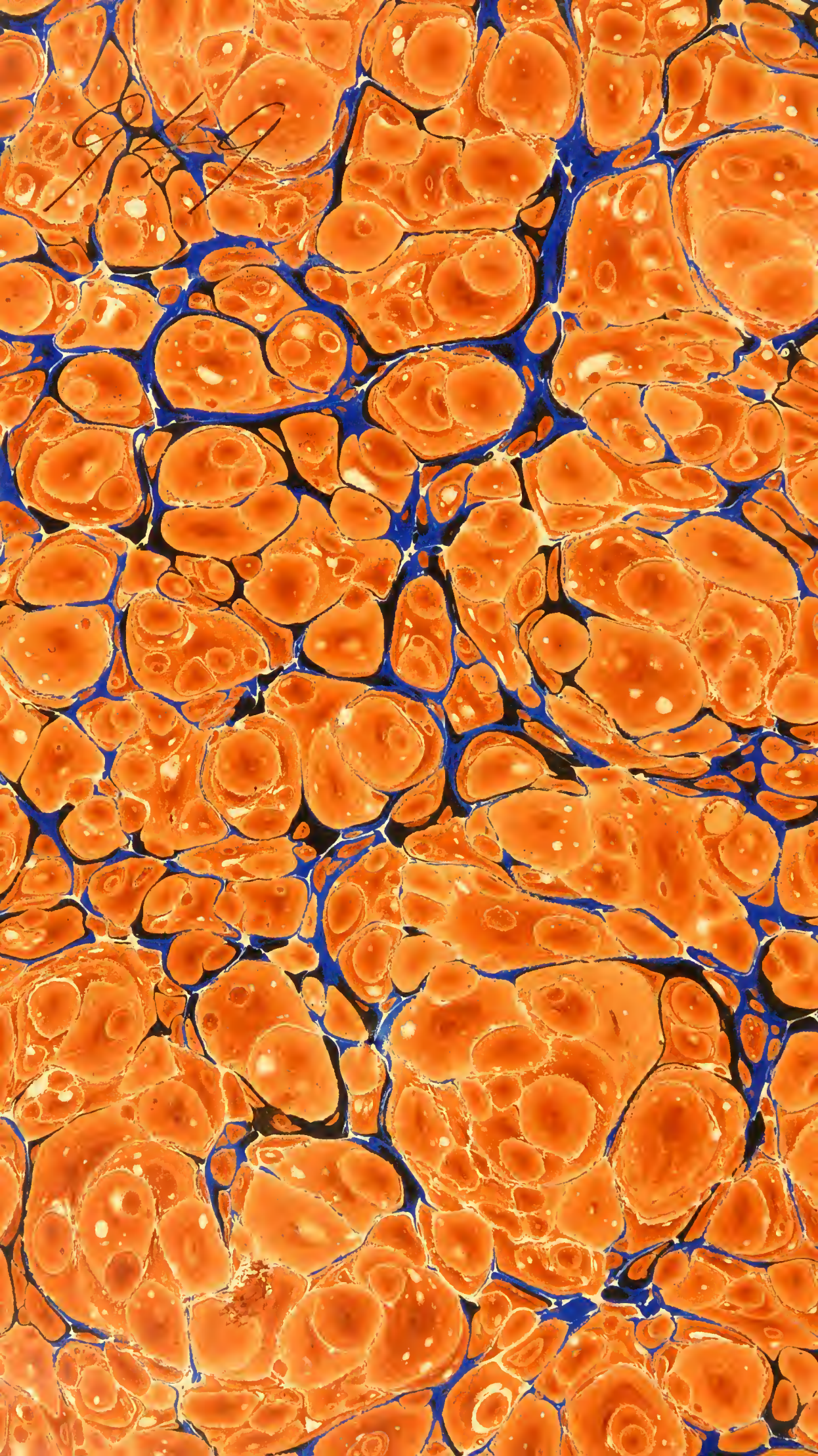
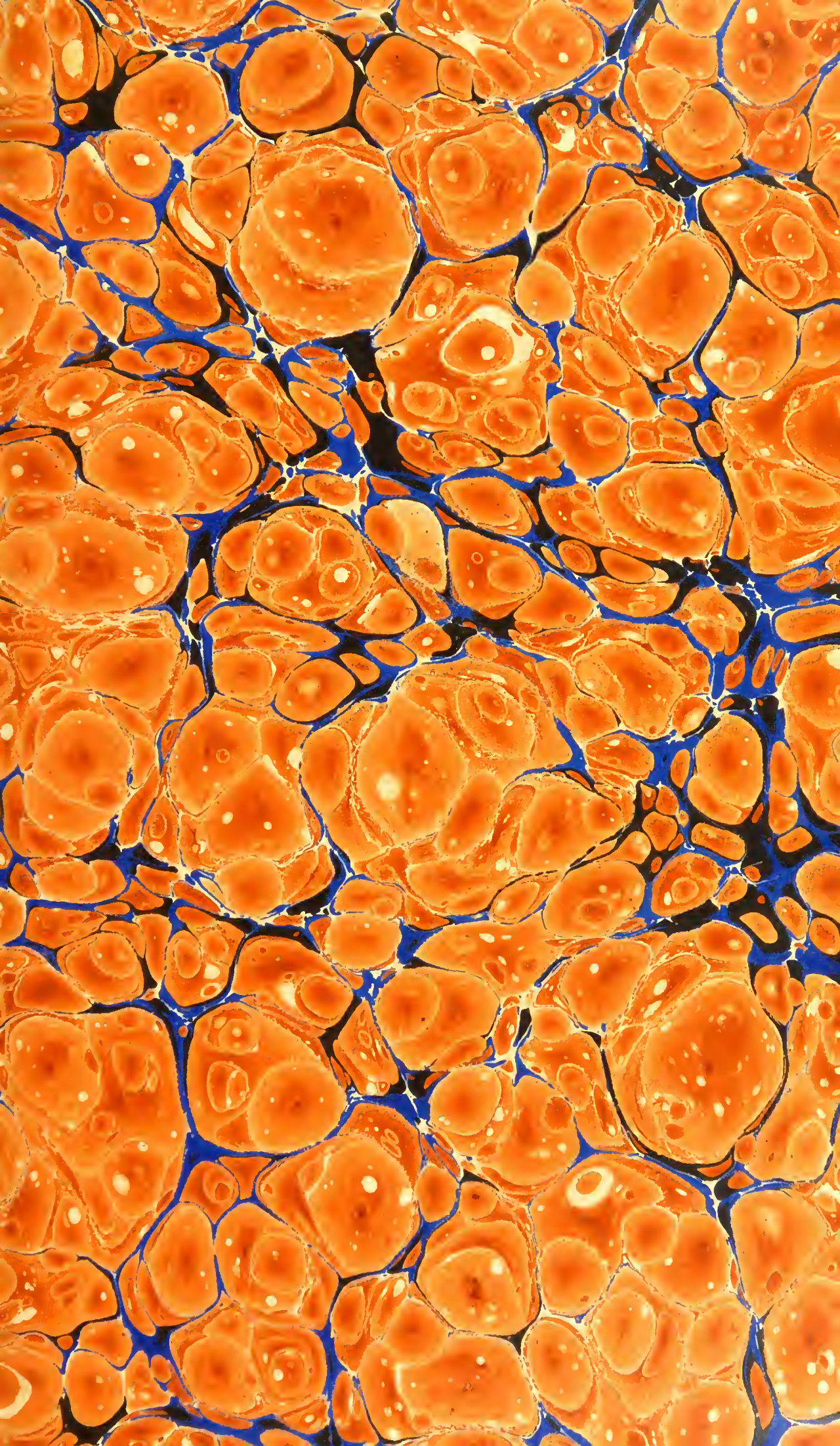


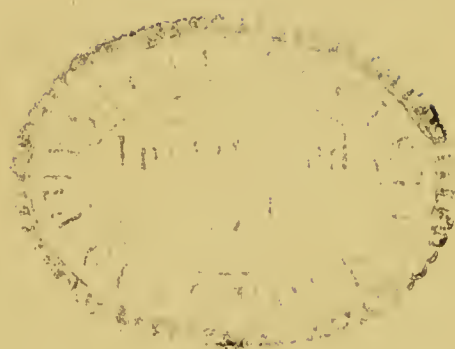






















BRITISH ENTOMOLOGY;  
BEING  
ILLUSTRATIONS AND DESCRIPTIONS  
OF  
THE GENERA OF INSECTS

FOUND IN  
GREAT BRITAIN AND IRELAND:  
CONTAINING  
COLOURED FIGURES FROM NATURE  
OF THE MOST RARE AND BEAUTIFUL SPECIES,  
AND IN MANY INSTANCES  
OF THE PLANTS UPON WHICH THEY ARE FOUND.

BY JOHN CURTIS, F.L.S.

HONORARY MEMBER OF THE ASHMOLEAN SOCIETY OF OXFORD,  
OF THE IMPERIAL AND ROYAL ACADEMY OF FLORENCE,  
OF THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, ETC.

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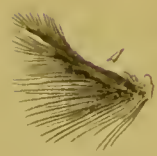
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## ERRATA.

| Folio.           | Line.                                                                | Folio.           | Line.                                                                                               |
|------------------|----------------------------------------------------------------------|------------------|-----------------------------------------------------------------------------------------------------|
| 29               | for Ramosana, degenerana, &c.<br>read Ramosanus, degeneranus,<br>&c. | 312              | 4 for nebulalis Hüb. read nebu-<br>lalis Haw., which is the pru-<br>nalis of the <i>Wien. Verz.</i> |
| 33 <sup>b</sup>  | 7 for Gamlung read Samlung.                                          | 344 <sup>b</sup> | add, at the bottom of the page,<br>The Plant is <i>Verbascum Thap-<br/>sus</i> (Great Mullein).     |
| 88 <sup>b</sup>  | 14 for Beegiarus read Belgarius.                                     |                  |                                                                                                     |
|                  | <i>Geometra tæneraria</i> , Hüb. :<br>belongs to this genus.         | 424              | 4 for Irish read Highland.                                                                          |
| 140 <sup>b</sup> | 23 after unca add Hüb., Haw.—<br>uncana.                             | 559              | 9 after external add maxillary.                                                                     |
| 161              | 23 for Coccæ read Coxæ.                                              | 659              | 37 for 14 read 12.                                                                                  |







*Veronica officinalis*



## PSODOS EQUESTRATA.

The gold four-spot Moth.

ORDER Lepidoptera. FAM. Phalænidae.

*Type of the Genus, Phalæna equestrata Fab.*PSODOS *Treit., Goda, Curt.*—*Psycophora Kirby, Curt.*—*Geometra Hüb.*—*Phalæna Fab., Haw.**Antennæ* alike in both sexes, rather short and setaceous, inserted near to the eyes on the crown of the head, composed of numerous oblong joints, thickly clothed with short hairs and scales (1). *Maxillæ* slender and spiral, not so long as the *antennæ* (3).*Labial Palpi* rather small, porrected obliquely beyond the head, parallel, very hairy (4), triarticulate, basal joint slightly curved, a little the longest and stoutest, 2nd nearly as long but thinner, 3rd minute (4a).

Head small and very hairy. Eyes small and oval. Thorax hairy. Abdomen short and slender, obtuse in the male, conical in the female. Wings forming a triangle when at rest? rounded and entire, superior rather small; cilia even. Legs; hinder pair the longest. Tibiæ; anterior short, with an internal spine, the others spurred at the apex, the posterior with a pair of spurs also below the middle. Tarsi 5-jointed, basal joint the longest. Claws and Pulvilli minute (8†, hind leg of male).

Caterpillars unknown, probably loopers with 10 feet.

EQUESTRATA *Fab.*—*Curt. Guide, Gen. 888. 1.*—*alpinata Hüb.*

Brown-black, alike on both sides; with a large elongated irregular oval orange spot towards the posterior margin of each wing.

*In the Cabinets of Mr. Dale and the Author.*

THE genus *Psodos* bears so great a resemblance to *Brepha* (pl. 121.) in form, structure, and the hairy scales with which it is clothed, that it forms a beautiful passage from the *Noctuidæ* to the *Phalænidae*, and, on the other hand, Mr. Kirby's genus *Psycophora* with its *antennæ* pectinated at the base in the males, will probably connect *Psodos* with *Biston*. *Psodos* like *Brepha* flies by day, and as the larvæ are unknown, it is impossible to say if any affinity exists between them in that state.

The five continental species of *Psodos* are all inhabitants of elevated regions; two only of these have been discovered in these kingdoms, and they are amongst the rarest of our *Lepidoptera*. *Duponchel* says, there is reason to believe that the

caterpillar of *P. equestrata* lives upon the *Rhododendron hirsutum*, which is not a native of our islands; it must therefore feed on more than one plant; and it might be worth while to search those Irish mountains on which the *Azalea procumbens* grows, as it is the plant I should think the nearest allied to *Rhododendron* of any that are indigenous.

1. *P. equestrata* Fab.—*Curt. Brit. Ent. pl.* 424.

The two specimens I possess of this very rare and handsome moth were taken many years since by Mr. Plastead near Holwood or Holywell, by Bromley in Kent; and Mr. Dale has another, which he obtained from the cabinet of the late Dr. Abbot. It is very common on the Alps of Dauphiny in July and August.

2. *P. trepidaria* Hüb. *Geo. pl.* 66. *f.* 343. ♀.—*Goda, v.* 8. *pars* 1. *pl.* 208. 1.

Blackish-brown, sprinkled with gray, superior wings with a dark oblique fascia across the middle, the edges crenated or sinuated, having a black dot towards the costa, and an obscure sinuated pale striga near the posterior margin: inferior wings with the base dark, terminating in a crenated margin across the middle, with a black dot towards the superior margin, and a sinuated pale striga towards the posterior; cilia grayish black.

Dr. Hooker first discovered this moth “on the very summit of Schecallion, one of the Breadalbane mountains, and 2564 feet above the level of the sea. At the time I took it (he adds) the north and east sides of the neighbouring mountains, of nothing like that elevation, were covered with snow: this was on the 30th of June. Scarcely any other plant could vegetate but *Trichostomum lanuginosum* and a few patches of the fine *Splachnum fastigiatum*. The moth was rapid on wing, tolerably plentiful, and rendered doubly difficult to take from the huge masses of naked rock with which the summit of Schecallion is covered, which rendered running dangerous, and often impracticable.”

In our ramble through Scotland in 1825, Mr. Dale and myself ascended Schecallion on the 11th July, in the hope of finding this rare moth; and my friend was so fortunate as to capture a beautiful specimen which flew out from a crevice of the rocks, that are so wildly piled together near the summit; but we could not find another. In France it appears the end of July or beginning of August.

The Plant is *Linum catharticum* (Purging Flax).







## NYSSIA ZONARIA.

## The belted Beauty.

ORDER Lepidoptera.

FAM. Geometridæ.

*Type of the Genus, Geometra zonaria Wien., Verz.*

NYSSIA Goda, Curt.—Phigalia Goda.—Amphidasis Och.—Geometra Linn., Haw.—Phalæna Fab.

*Antennæ* short, inserted near to the eyes on the crown of the head, filiform, scaly, bipectinated in the male, the rays ciliated, short at the base and apex (1 ♂); simple in the female, with a few scattered hairs amongst the scales (♀).

*Maxillæ* none.

*Labial palpi* small, rather drooping and densely clothed with long hairs (4); triarticulate (*a*), basal joint the longest and stoutest, 2nd oblong, 3rd minute, clothed with short scales and concealed by very long hairs.

Head small and very much concealed under the thorax (7 the profile); eyes small and globose but not prominent. Thorax globose and woolly: Abdomen short stout and attenuated. Wings, superior sublanceolate; inferior rather small subovate. Legs very much alike in size: thighs very woolly: tibiæ, anterior with a long slender internal spine (8), the others with short spurs only at the apex (†); tarsi long and 5-jointed: claws and pulvilli small. Female with 4 small, spatulate hairy wings.

Larvæ loopers, naked, with 6 pectoral, 2 abdominal and 2 anal feet.

Pupæ naked, subterranean. Hüb.

ZONARIA Wien., Verz.—Curt. Guide, Gen. 890. 3.

Male white with a yellowish tinge; rays of antennæ blackish; thorax with 3 broad black stripes: abdomen black clothed with ochreous hairs towards the apex, margins of the segments ferruginous: wings with the nervures black, superior with a black lunule on the disc, beyond which the wing is black, with 2 oblique white slightly waved lines, the 1st being the broadest; inferior with a broad blackish fimbria, bearing a broad whitish stripe and a narrow line, sometimes composed of dots, near to the margin; cilia blackish: legs black spotted with white.

Female deep black, clothed with whitish woolly hairs, especially beneath, antennæ speckled with white, margins of abdominal segments ochreous, tips of thighs, tibiæ and joints of tarsi white.

*In the Author's and other Cabinets.*

NYSSIA has been separated from Biston by M. Duponchel in consequence of the females being nearly apterous, and the caterpillars varying in their form. He has also formed a ge-

nus of one of our species from the more ample wings and smaller abdomen of the male; it is named

PHIGALIA.

1. pilosaria *Hüb. pl.* 34. *f.* 176.—*Wood* 18. 465.—*plumaria* *Esp.*  
—*pedaria* *Fab.*

Branches of the antennæ long and fine in the male; dull white, head, thorax and abdomen cinereous; wings very ample, freckled with brown, superior with 4 sinuated variegated strigæ; inferior with 2 and much paler: 1 and  $\frac{3}{4}$  inch to 1 inch 11 lines expanse.

End of March, trunks of trees and paling near London, Cheshire and Salop. The larva feeds on the oak, birch, black- and white-thorns, and the elm.

NYSSIA.

2. hispidaria *Fab.*—*Wood* 18. 466.—*Ursularia* *Don.* 13. 447.

Antennæ ochreous, head thorax and abdomen brown; superior wings paler, freckled, with a curved striga near the base, another bicurved beyond the middle, with a spot or indistinct striga between them, and a stronger denticulated one near the cilia, which are spotted; inferior wings pale, with an obscure striga: expanse 15 lines.

End of February, trunks of oaks and willows; 28th January Mr. Raddon; 10th March bred by Mr. Cocks of High Bickington; end of September Weston on the Green, Mr. Matthews; also at Birch and Coomb Woods and Richmond Park.

The *N. Tauaria* Newm. Ent. Mag. seems to be merely a variety; it was taken in June at Leominster.

3. zonaria *W. V.*—*Curt. Brit. Ent. pl.* 615 ♂. & ♀.

This beautiful addition to our Lepidoptera was first discovered near the Black-rock, on the Cheshire side of the river Mersey, in April 1829, by a friend of Mr. S. Carter, to whom I am indebted for my specimens; and he informs me that in February 1832 a male was taken near Warrington, that last March he found many pairs on the sands and resting on the grass near the Black-rock. It is recorded also in the Ent. Mag. that Mr. N. Cook took a male on rushes about half a mile below the Black-rock, near Liverpool, in September 1832, and several of both sexes the middle of the same month in the following year: in February 1833 Mr. B. Cooke bred a female, and about the same time a considerable number of the moths were found; and during the same month in 1834 they were so abundant that he could scarcely walk without treading on them.

The caterpillar lives principally upon the *Achillea Millefolium* (pl. 19.), *Salvia pratensis*, and *Centaurea jacea*, and I hope that the figure of it from Hübner may lead to its discovery in this country.

The Plant is *Veronica hederifolia*, Ivy-leaved Speedwell.







*Salix glauca* Willd.

## ALCIS SERICEARIA.

The Satin Beauty.

ORDER Lepidoptera. FAM. Phalænidae *Lat., Leach.**Type of the Genus Phalæna repandata Linn.*ALCIS *Nobis.* Phalæna *Linn., Fab.* Geometra *Haw., Hüb.* Heme-  
rophila *Steph.**Antennæ* inserted between the eyes, filiform, bipectinated in the males, simple towards the apex; branches ciliated, arising near the centre of the joint (1): simple, hairy beneath, with a bristle arising from each joint in the females (1a).*Labrum* and *Mandibles* larger than usual (2).*Maxillæ* long slender, furnished with distinct tentacula towards the apex (3).*Labial palpi* porrected, visible viewed from above, not hairy, thickly covered with broad scales very much lengthened beneath, terminal joint not quite concealed (4), 3-jointed, basal joint long, recurved, 2nd nearly as long, 3rd ovate, very minute (4a).

Males smaller than the females. Eyes rather large, parallel in front (7). Wings ample, extended horizontally, superior trigonate, inferior slightly indented. Abdomen long, linear, somewhat truncated in the males, shorter and conical in the females. Legs rather long and slender. Anterior tibia short, with a long spine on the internal edge. Posterior very long, robust, hollow, furnished with 2 pair of spurs, a longitudinal suture and a tuft of long silky hair arising at the base, and concealed in the tibia when at rest (8†). Tarsi 5-jointed, posterior short.

Caterpillars loopers with 6 pectoral, 2 abdominal and 2 anal feet.

SERICEARIA *Nobis.*

Silky brown, speckled irregularly with ochre. Rachis of antennæ pale, rays fuscous. Palpi and head brown; neck, base of antennæ, and a space above the eyes ochre; sides of thorax pale. Abdomen somewhat black, minutely speckled with ochre, the margins of the segments and the apex of the same colour. Superior wings the darkest, a space at the base very dark, a transverse spot near the middle black, an indented transverse line beyond the spot and an obscure interrupted waved line near the posterior margin: nervures dark. Inferior wings fuscous at their base, a transverse obscure spot towards the centre, beyond which is a waved transverse line, dark on the internal, light on the external edge, limb speckled with longish ochraceous spots. Cilia somewhat striped with ochre, margins of wings with 6 or 7 irregular black spots on each.

Var.  $\beta$ . Very pale testaceous, clouded with ochre instead of brown.*In the Cabinets of Mr. Stone and the Author.*



*ALCIS* may be distinguished from *Bupalus*, by the males being invariably smaller than the females; the eyes are larger and not so distant in front, the palpi are more porrected, shorter, and not hairy, the maxillæ are very long, the antennæ are not pectinated to the apex: the singular character of the hind legs, which I believe has never before been noticed, is very difficult to detect, except by dissection; the 8th and 9th species do not possess it, and possibly some of the others, of which I either had not males, or they were too valuable to be examined. Many of the *Lepidoptera* have their legs, especially the posterior, furnished with brushes of hair, most probably to balance them in their flight; but none are more curious than those of the males of *Alcis*; the posterior tibiæ are very long and robust, and on the internal side may be traced a longitudinal suture extending the whole length, which from the tibia being hollow can no doubt be opened and the long brush of silky hair may be exerted at the pleasure of the insect. The following are our British species.

1. *Alcis Roboraria* *Fab.*, *Don.* v. 15. pl. 527.
2.       *sericearia* *Nob.*
3.       *consortaria* *Fab.*, *Don.* 10. 333. 2.
4.       *conversaria* *Hub.*, *Don.* 15. 514.
5.       *destrigaria* *Haw.* 276. 11.
6.       *repandaria* *Linn.*, *Don.* 10. 333. 1.
7.       *muraria* *Nob.*
8.       *rhomboidaria* *Hub.*
9.       *Australaria* *Nob.*
10.      *consobrinaria* *Haw.*
11.      *fimbriaria* *Hub.* ?

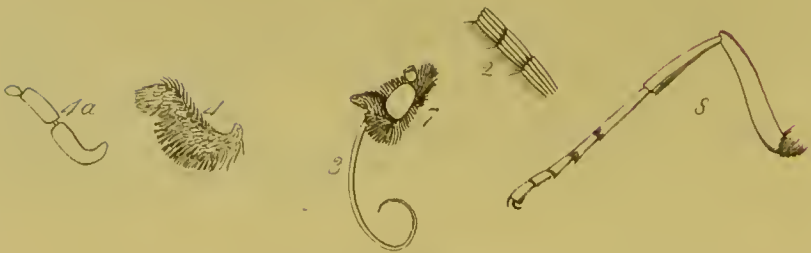
Several females and one male of the nondescript figured were taken last July near Lyndhurst in the New Forest, and are now in the cabinet of Mr. Stone, to whom I am indebted for the species as well as for the loan of the beautiful male represented in the plate. It is probably an oak-feeder, one of the females having been found upon the trunk of that tree, and the other specimens having been beat out of the branches.

*A. muraria* is a new species that I found upon walls in the Isle of Arran; it is nearest allied to *A. repandaria*; it is however smaller, of an uniform gray, more speckled, and the markings are more obscure.

*A. Australaria* is an insect from the western counties, resembling *A. rhomboidaria*, but having a deep ochraceous tinge with powerful markings: for the specimen in my cabinet I am indebted to Charles Lyell, Esq., who took it in the New Forest, Hampshire.

*Epilobium tetragonum* (Square-stalked Willow-herb) is the plant represented in the plate.





*Printed by J. Curtes London Oct 1 1825*

## CLEORA CINCTARIA.

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ORDER Lepidoptera.      FAM. Phalænidae *Lat., Leach.*

*Type of the Genus Phalæna cinctaria Hub.*

CLEORA *Nob.* Phalæna *Linn., Fab., Lat., Leach.* Geometra *Hub., Haw.*

*Antennæ* inserted close to the eyes near the crown of the head, setaceous long and slender, covered with long scales above, hairy beneath, each joint having a few larger bristles upon its anterior margin (f. 2, 3 joints magnified).

*Maxillæ* slender, not so long as the antennæ (3).

*Labial palpi* 2, projecting obliquely a little beyond the head, obtuse, thickly covered with short broad scales which extend considerably beyond the terminal joint (4), 3-jointed, 1st joint curved upward from the base, 2nd filiform somewhat truncated, 3rd small oval (4 a).

Wings extended horizontally, undivided, slightly indented. Abdomen robust and conical in the females. Legs rather robust. Anterior tibiæ longer than the basal joint of the tarsus, with a short compressed spine on the internal edge, concealed by long scales, 2nd pair terminated by 2 spurs, the hinder pair having 4 spurs, 2 of which are at the apex. Claws distinct, bent. Pulvilli distinct (8 a fore leg). Caterpillars loopers with 6 pectoral, 2 abdominal, and 2 anal feet.

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CINCTARIA *Hubner's Lep. Geom.* 1. *Amplissimæ Y, Pl.* 31. f. 166. *fem.*

Whitish, variegated and minutely spotted with brown. Clypeus with a black line above the palpi. Abdomen with a white narrow band at the base and a dark one following it, with a double row of black spots down the back. Superior wings variegated with ochraceous, especially towards the base and posterior margin where they are darkest, 2 transverse black curved lines near the base and another crenated one beyond an oval ocellus in the centre, with a pale sinuated one near to and parallel with the margin. Inferior wings paler, with an ocellus in the centre, a transverse sinuated stripe internally black, externally white, a shorter one near the base, and one entirely pale near the margin. Posterior margins of wings indented, with a black line. Cilia alternately fuscous and ochraceous.

Var. *α.* darker with a black line across the anterior part of the thorax, which is ferruginous on the sides. Abdomen wanting the transverse black fascia.

*In the Cabinets of Mr. Dale and the Author.*

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THE great mass of insects which has hitherto been comprehended under the appellations *Phalæna* and *Geometra*, renders



it necessary that the groups should be separated and formed into new genera: this, however, is a difficult task, and the labourer in the field of science must be contented in the first instance to give a general outline; the minutiae required to establish satisfactory characters can only be obtained by extensive and repeated investigation. With such manifest obstacles in an Order, the classification of which has been so much neglected, it becomes an arduous undertaking: it is therefore with considerable hesitation that the subject of the present article has been constituted into the type of a new genus; and had it not been perfectly new to this country, it would not at present have been laid before our readers.

After examining 7 specimens, 3 of which were British, I could discover no difference in the structure of the antennæ, which from their simple form indicate the female sex, although the abdomens of the paler specimens, being slightly contracted towards the base, at first led me to believe that these specimens were males: if such be the case, the variety described is a female. I am, however, inclined to think that the males have not been detected at present, and that they will be found to possess ciliated, not pectinated, antennæ; in which case they will associate with the following species.

1. *Geometra tetragonaria* *Harw. MSS.*
2.                   *abietaria* *Hub.*
3.                   *crepuscularia* *Hub.*
4.                   *consonaria* *Hub.*
5.                   *punctularia* *Hub.*
6.                   *extersaria* *Hub.*

For the introduction of this rare species into our Fauna we are indebted to J. C. Dale, Esq., who first took it on the trunk of an Oak near Brockenhurst, Hants, June 2nd, 1823; a 2nd specimen upon the trunk of a Scotch Fir, Parley Heath, May 11th, 1824; and a 3rd near Lyndhurst, May 31st, 1824. It has this year again appeared in the New Forest, where I am informed 2 specimens were captured.

The plant figured is *Hedysarum Onobrychis* (Cock's Head, or Sainfoin).





Pub. by J. Curtis Aug. 1 1828

## SPERANZA SYLVARIA.

## The Rannoeh Geometra.

ORDER Lepidoptera.      FAM. Phalænidæ *Lat., Leach.*

*Type of the Genus Speranza sylvaria Nob.*

SPERANZA *Nob.*    Phalæna *Fab.*    Geometra *Hüb., Haw.*

*Antennæ* inserted on the crown of the head close to the eyes, setaceous, composed of numerous oblong joints the basal one large globose; each producing 2 ciliated branches in the males (1),—excepting at the apex (1 b), and they are much shorter towards the base; simple in the females and ciliated beneath (2).

*Maxillæ* spiral and slender, nearly as long as the antennæ, with a few tentacula at the apex (3).

*Labial palpi* porrected nearly horizontally, thickly clothed with scales, the apical joint distinct (4); triarticulate, basal and 2nd joints of equal length, the former slightly curved, 3rd minute (4 a).

Head *small*. Abdomen *slender, linear in the male, somewhat conical in the female*. Wings, *superior of the male with a small protuberance on the upper side, near the base, which is hollow and naked beneath* (9 a). Legs *long; thighs very long*. Tibiæ, *anterior with a spine on the internal side* (8), the others with a pair of spurs at the apex, the posterior producing a pair above the apex. Tarsi *very long and slender, 5-jointed*. Claws and pulvilli *minute*.

Caterpillars *loopers, with 6 pectoral, 2 abdominal, and 2 anal feet?*

SYLVARIA *Nobis.*

*Male*, fulvous orange. Superior wings lurid, the costa spotted with orange; 4 darker sinuated strigæ across each wing, the 2nd from the base being nearly straight, and a small dark spot in the middle; inferior wings obscurely and minutely speckled with fuscous, having 2 obscure curved lines and a dull spot between them. Cilia pale fuscous. Beneath orange, speckled with a deeper colour.

*Female* dull orange, freckled with brown, the strigæ broader and more distinct than in the male, the spot in the upper wings more obscure. Beneath pale orange, the strigæ and spots ferruginous.

*In the Cabinets of Mr. Dale and the Author.*



It will be only necessary to state that the genus *Fidonia* of Ochsenheimer contains *Phalæna heparata*, *Geometra auro-raria*, *limbaria*, *Piniaria*, *atomaria*, *defoliaria*, &c., to show how difficult it is to determine, especially without the characters, which is to be considered the type in such a heterogeneous mass; this will be a sufficient reason for my constituting a distinct genus of the two insects hereafter recorded, which are remarkably characterized by the protuberance at the base of the upper wings of the males, which is visible to the naked eye. From *Alcis* our genus may be distinguished by the equal size of the two sexes and the simple hinder tibiæ, and from *Bupalus* and *Fidonia* by the want of pectinations towards the apex of the male antennæ.

I can find only two species that will associate with the genus.

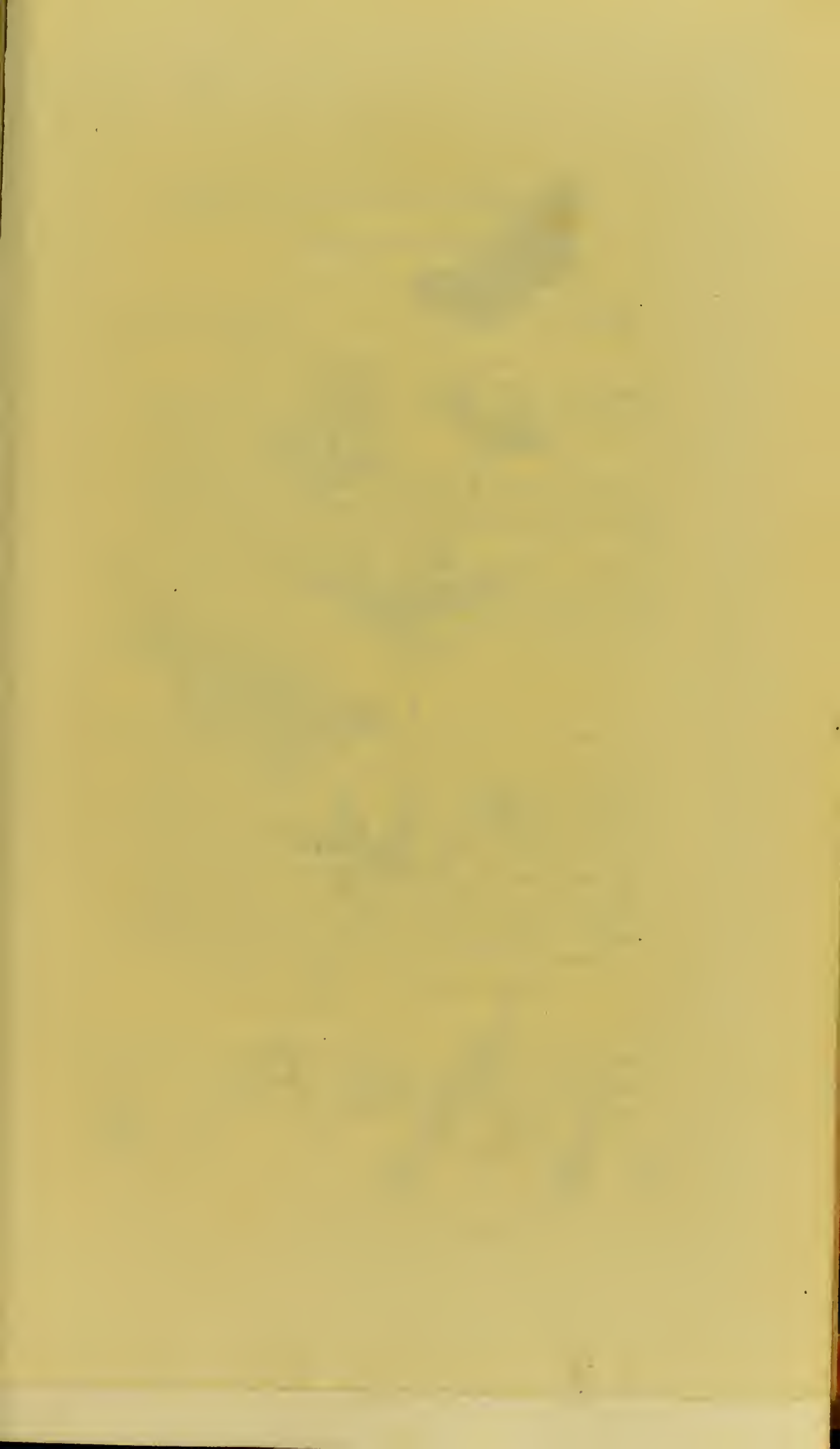
1. *S. sylvaria* *Nob.*

This insect was unknown to Entomologists (unless the *G. Pinetaria* of Hübner be the female) until Mr. Dale and myself had the good fortune to discover it in Scotland. We saw the males flying in some abundance on the 14th July in the heat of the day, over the high heath which covers the hillocks amongst the pine-trees in Black-wood, near the shores of Loch Rannoch: the only female taken I brushed out of the heath at the same time.

2. *S. limbaria* *Fab.*, *Syst. Ent.* 624. 24.—*Ent. Syst.* 3. pars 2. 141. 46.—*Haw.* 286. 40.—*Harris, Expo. pl.* 5. f. 4.—*conspicuaria* *Hüb. pl.* 22. 117. 118.

There are certainly two broods of this moth in a year, as I have taken specimens in Birch-wood the beginning of May and the end of July, and it is found as late as August. It is attached to broom-fields, and like *S. sylvaria*, flies during the day; and the female is the rarer sex.

The plant is *Melampyrum pratense* (Meadow Cow-wheat), which I believe was in flower in Black-wood at the time.





*Publ. by J. Currie London Aug 1871*

## BUPALUS FAVILLACEARIUS.

The grey Scollop.

ORDER Lepidoptera. FAM. Phalænidae Lat., Leach.

*Type of the Genus B. favillacearius.*

BUPALUS Leach. Phalæna Linn., Fab., Lat. Geometra Hub., Haw.

*Antennæ* setaceous, bipectinated in the males (1.); the branches ciliated (1. a.), slightly serrated in the females. (2. a portion of the antenna magnified.)*Maxillæ* short, rather broad and flat. (3.)*Labial palpi* 2, covered with scales, slightly hirsute (4.), shorter than the head, scarcely projecting beyond the eyes viewed in profile (7. a.), 3-jointed; first joint long, curved upwards; third joint very small, nearly globose. (4. a.)*Wings* very much deflexed when at rest, not angulated or indented.*Body* slender. Anterior legs with a spine on the internal side of the tibia arising near the base and extending to the first joint of the tarsus (8.); the middle and posterior legs with spurs at the apex of the tibiæ, the latter with spurs also in the middle.*Caterpillars* loopers, with 6 pectoral, 2 abdominal, and 2 anal feet.

FAVILLACEARIUS (male) Hub. Schmet. Geo. pl. 26. f. 139. Haw. Lep. Brit. p. 278. n. 19.

*Male* hoary white, slightly tinged with ochraceous, covered with irregular minute spots; superior wings with a black transverse indented striga near the base, another dentated internally at the nervures, nearly parallel with the posterior margin, with two large dark spots on its external side, a long black spot near the disk, and a line of small black spots along the base of the cilia; inferior wings with a dentated waved dark line nearly parallel with the margin and a dark spot towards the centre; cilia yellowish brown. Eyes, antennæ and legs nearly black. *Female* smaller, the superior wings more brown, the inferior blackish.*In the Cabinets of Mr. Dale and the Author.*

DR. LEACH, in establishing the Genus *Bupalus*, has given *Phalæna piniaria* Linn. as an example, to which may be added *Geometra ericetaria* Vill., and probably *G. fuliginaria* and *atomaria* Linn.



The beautiful species figured in illustration of the Genus was first noticed, I believe, by Harris in his Aurelian as an inhabitant of this island; it was afterwards taken by Mr. Harworth in Yorkshire, since which Mr. Dale has met with it in Hampshire; and during a late visit to that county he was so obliging as to point out the locality to me.

The figure in *Der Gamlung Europaischer Schmetterlinge* of Hubner (*Geometra*, pl. 26. f. 140.) represents *G. Belgiana*, which so much resembles the female of *B. favillacearius*, except in its pectinated antennæ, that until this year an opinion was entertained that we possessed both species: as however we found the sexes upon the same ground, and out of a considerable number of both, the males were all *B. favillacearius* and the females *B. Beegianus*, there can no longer be a doubt of their being the sexes of the same species; and if it were not for the masculine antennæ of Hubner's figure, I should be disposed to consider it, as the female of his *B. favillacearius*; it may possibly be a strong variety of the male partaking of the colouring of the female, or the antennæ may have been erroneously figured: if it be otherwise, we do not at present possess the species.

Both sexes of *B. favillacearius* are found from the middle of May to the middle of July resting upon the ground (with the inferior wings completely concealed by the superior ones): where turf has been pared off upon heaths, especially where it is rather moist, it is easily detected, from the earth (a black peat) being so opposite in colour; and it is perhaps the most easy of all insects to capture, as nothing apparently will induce it to fly during the day: late in the evening we took specimens of the male near Lyndhurst flying very sluggishly.

The plant figured, *Tormentilla erecta* (common or officinal Tormentil), was growing upon the heaths where the moths were taken.





*Phryganidia carolina* (L.)

## ASPILATES GILVARIA.

## The Straw or Dover Belle.

ORDER Lepidoptera. FAM. Phalænidae.

*Type of the Genus, Phalæna purpuraria Linn.*ASPILATES Treit., Goda., Curt.—Cabera Och.—Geometra Hüb., Haw.  
—Phalæna Linn.*Antennæ* inserted on the crown of the head close to the eyes, setaceous, clothed with scales, bipectinated in the males nearly to the apex, each joint producing 2 ciliated branches (1 ♂): simple in the females, the scales giving them a serrated appearance beneath (1 ♀).*Maxilla* spiral, slender and not half so long as the antennæ (3).*Labial Palpi* porrected nearly horizontally and clothed with short scales (4); triarticulate, basal joint the stoutest and curved, 2nd the longest, slender and nearly linear, 3rd small elongate-ovate (4 a).

Males generally larger than the females. Head short and rounded.

Thorax globose and clothed with depressed hairy scales. Abdomen long, slender and slightly tufted in the male, stouter and conical at the apex in the female. Wings forming a triangle when at rest, entire; superior elongate-trigonal, less pointed in the male than female; inferior trigonal-orbicular, narrower in the female and less rounded. Legs long and slender. Tibiæ, anterior the shortest, with a very long slender spine on the inside, intermediate spurred at the apex, posterior very long with a pair of short spurs at the apex, and an unequal and longer pair below the middle (8 †). Tarsi long and 5-jointed. Claws and Pulvilli minute.

Obs. *A. gilvaria* was the species dissected.

Caterpillar naked, with 6 pectoral, 2 abdominal and 2 anal feet, the apex apparently forked.

Pupa enclosed in a loose web upon the earth.

GILVARIA Hüb.—Curt. Guide, Gen. 895. 3.

Pale ochre or straw colour; rays of the antennæ and eyes black: abdomen whitish ochre: superior wings freckled with brown, having a dot towards the disc and an oblique bar extending from the interior margin to the apex, of the same colour; inferior wings whitish ochre, with a spot and a transverse line more or less apparent; the cilia ochreous. Underside with the brown spots and stripes more apparent, but the superior are not freckled and there is a dusky patch at the base of the costa; the inferior wings are strongly freckled: inside of legs dusky.

*In the Author's and other Cabinets.*

I HAVE repeatedly expressed an opinion that the genera in Lepidoptera are so perfectly artificial, that Entomologists will never probably agree in the extent and formation of them.



The present genus does not appear to me to be sufficiently distinct from *Bupalus* on the one hand, nor from *Cabera* on the other, to warrant their being separated; I shall therefore add the species belonging to the latter group. The males fly during the day and are much more abundant in some of the species than the other sex.

1. *A. purpuraria* L.—*Hüb. Geo. pl.* 38. *f.* 198 & 199.—*Goda. pl.* 179. *f.* 1. 2. & 3.

The Caterpillar feeds on the *Polygonum aviculare* (pl. 5). Specimens of the Moth are in Mr. Swainson's Cabinet, but I do not know where they were captured; I found it not uncommon in France near Montpellier, the middle of June.

2. *A. citraria* *Hüb. pl.* 40. *f.* 212. & *pl.* 103. *f.* 536 & 537.—*Goda. pl.* 178. *f.* 4 & 5.

June, July and August, flying in clover fields at the back of the Isle of Wight, and amongst the *Eryngium maritimum* (pl. 53), beyond the Castle, Portsmouth; Studland heath, near the Agglestone, Isle of Purbeck, and Lulworth Cove, Mr. Dale.

3. *A. gilvaria* *Hüb.—Curt. Brit. Ent. pl.* 467 ♂ & ♀.

From the middle of July to the end of August, behind the Castle at Dover in abundance. The larva which is copied from Hübner, feeds on the *Achillea millefolium* (pl. 19).

4. *A. plumbaria* F.—*Goda. pl.* 181. 1.—*plumbaria* *Hüb.* 42. 221.

End of May and June, on heaths and grassy places in woods everywhere; a fine variety near Edinburgh, Mr. Dale. Although this forms part of the genus *Phasianæ* of Godart, I think it would arrange better with Gen. 907 of my Guide, the *Eubolia* of the same Author.

5. *A. respersaria* *Hüb.* 23. 125.—*strigillaria* *Esp.—Hüb.* 104. 540 & 541. *var.—Goda. pl.* 171. 1.—*inæquaria* *Haw.* 288. 44. *var.*

June and beginning of July, Kent, open parts in Coombe Wood, the New Forest, Parley Heath, and Glanville's Wootton, Mr. Dale.

#### Gen. 896. CABERA 'Treit.

1. *C. exanthemaria* *Esp.—Goda. pl.* 171. 3.—*striaria* *Hüb.* 17. 88.—*arenosaria* *Haw.* 289. 48. *var.—approximaria* *Haw.* 289. 49. *var.*

May to the end of June, in moist woods.

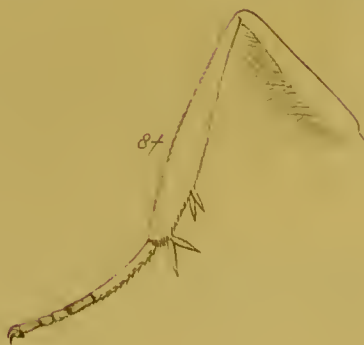
2. *C. pusaria* L.—*Hüb.* 17. 87.—*Goda.* 171. 2.

Middle of May, hedges: the larva, which is different to that of the former species, feeds upon Birch, Sallow, Beech, and particularly Alder.

3. *C. rotundaria* *Haw. Lep. Brit. p.* 289. 50.  
May, moist woods.

The Plant is *Poa bulbosa* (Bulbous Meadow-grass), communicated by C. J. Paget, Esq., from Yarmouth Denes, Norfolk.





*U. ly. 1. 1. 1.*

## HIPPARCHUS SMARAGDARIUS.

## The Essex Emerald.

ORDER Lepidoptera. FAM. Phalænidæ *Lat., Leach.*

*Type of the Genus, Phalæna Papilionaria Linn.*

HIPPARCHUS *Lea., Sam.*—Hemithea *Goda.*—Geometra *Hüb., Haw., Treit.*—Phalæna *Linn. Fab.*

*Antennæ* inserted on the crown of the head, setaceous, pectinated in the males almost to the apex, each joint being covered with scales above and producing on each side a clavate ciliated branch (1).

*Maxillæ* spiral, much shorter than the antennæ, rather robust and only slightly ciliated at the apex (3).

*Labial Palpi* porrected nearly horizontally, covered with scales, hairy above and below, the terminal joint appearing naked and distinct (4); triarticulate, basal joint short, 2nd long and slightly attenuated, 3rd short spear-shaped (4a), the edges being rigid and compressed, and the apex acute in the male, but not in the female.

Head broad, clothed with hairy scales on the crown, with imbricated ones in front. Eyes subovate. Thorax and body often robust, the latter sublinear in the males, ovate-conic in the females. Wings extended obliquely when at rest, the superior covering the inferior, the latter sometimes slightly angulated. Legs long, hinder pair the shortest. Tibiæ; anterior short, producing a dilated spine on the internal side, the others spurred, posterior robust with two pair of spurs, most developed in the females, the lower ones being the longest. Tarsi 5-jointed, basal joint very long in the 4 anterior, the posterior much shorter. Claws and pulvilli distinct (8† hind leg of male).

Caterpillars loopers with 6 pectoral, 2 abdominal and 2 anal feet.

SMARAGDARIUS *Fab. Ent. Syst. v. 3. pars 2. p. 151. n. 81.*

*Female.* Green: Antennæ whitish, underside and palpi ochreous; eyes blackish. Thorax with the anterior scales margined with ochre; superior wings with the costa of the same colour, 2 sinuated pale ochreous strigæ, one before, the other beyond the middle, between which is a whitish spot. Abdomen, upper portion of the inferior wings and the extremity of the cilia whitish. Legs yellowish white, thighs green, anterior tibiæ subferruginous on the inside. Underside with the outer striga continued round the inferior wings, in the disc of which is a whitish spot as in the superior wings.

*In the Cabinet of Mr. C. Parsons.*



DR. LEACH having characterized this genus several years since, his name has been adopted. I have excluded two species of Treitschke's group, in consequence of the antennæ being simple in both sexes; one, *P. Thymiaria*, has been already attached to my genus *Macaria*; and the other, *P. viridata*, Linn. probably belongs to the same group.

The following are British insects.

1. *H. putatarius* Linn. Haw.—Hüb. pl. 2. f. 10.—End of May; open places in woods. The *G. Æruginaria*, Hüb. 9. 46, appears to me to be the same insect faded, and my specimens agree better with it than with the former, excepting in size.
2. *H. vernarius* Linn.—Hüb. 2. 7.—*lucidata* Don. 3. 97.—*volutaria* Haw.—End of July; chalky places, birch-wood, &c.
3. *H. Smaragdarius* Fab.—Hüb. 1. 1, represents the female which Godart has copied; and in these figures there is a white line round the inferior wings, which was not visible on the upper sides of the specimen represented in our Plate. For the loan of this rare insect, which is unique as British, I am indebted to Mr. C. Parsons, of the Lawn, Southchurch, Essex. Mr. Parsons found the caterpillar in that neighbourhood, and the moth was hatched the 30th June, 1826.
4. *H. papilionaria* Linn.—Hüb. 2. 6.—Don. 8. 287. 1. Haw.—End of July; in woods and the vicinity of alders, meadows.
5. *H. Cythisaria* Hüb. pl. 1. f. 2.—*prasinaria* Fab. Haw.—*Genistaria* Goda. pl. 152. 2.—Beginning of July; grassy places. This insect, as well as most of the other species, frequently fade very much by keeping; it is therefore possible that the *G. coronillaria* of Hübner, tab. 93, may be only a gray variety, but it has never been observed in this country.
6. *H. Bajularia* Hüb. 1. 3.—Goda.—*ditaria* Fab.—Don. 6. 202. 1.—June and July; open parts in woods, at Birch-wood, Kent, &c.
7. *H. Prunaria* Linn. Haw.—Sepp. v. 2. pl. 8 & 9.—Don. 1. 21. and v. 9. 293. 3 var.—*Corylaria* Esp. var.—End of June; shady groves and skirts of woods, Kent, Norfolk, &c.

The last two insects depart from the other species in some respects, but it is better to include them here than to make new genera for them.

The plant is *Oxalis acetosella* (Wood Sorrel).





## ENNOMOS ANGULARIA.

The clouded August Thorn.

ORDER Lepidoptera.

FAM. Geometridæ.

*Type of the Genus, Geometra angularia Hüb.*

ENNOMOS Och., Goda, Curt.—Geometra Linn., Hüb., Haw., Step.—Phalæna Fab.

*Antennæ* inserted close to the eyes, towards the base of the head, bipectinated in the males to the apex (1 ♂), the rays long, slender, and ciliated on both sides with short curved hairs, and a few fine bristles at the apex; simple in the females (1 ♀), but slightly serrated, the internal angles being produced.

*Maxillæ* very short and spiral, rather broad and flat, not longer than the palpi (3).

*Labial palpi* projecting a little obliquely beyond the head, forming a beak, very hairy (4), tapering, triarticulate, basal joint the stoutest, lunate, 2nd rather more slender, and about the same length, 3rd shorter and slenderer (4 a).

Head small and short, the scales projecting in a point in front (7 \*): eyes comparatively large and hemispherical. Thorax rather small, woolly. Abdomen long, linear and dilated at the apex, with horny appendages in the male; shorter stouter and conical at the apex in the female. Wings, superior subtrigonal, posterior margin bisinuated; inferior trigonal-ovate with a lobe at the centre of the margin: cilia very short. Legs moderate: thighs not long: tibiæ, anterior short, with a hairy internal spine, the others with short spurs at the apex, hinder a little the longest, with a pair of short spurs also a little above the apex (8 †): tarsi long slender and 5-toined, hinder rather the shortest; claws and pulvilli minute.

Larvæ loopers, smooth but tubercled, with 6 pectoral and 4 anal feet: Pupæ subterranean.

ANGULARIA Hüb.—Curt. Guide, Gen. 902. 9.

*Male* bright ochreous, superior wings more or less brown, leaving a fascia of the ground colour across the disc, margined by a dark brown striga, the inner one curved and angulated at the costa, the outer one straight, but curved towards the costa, which it joins obliquely; a brown dot on the disc, the posterior portion of the wings freckled: inferior wings dark ochre at the margin, with a dark striga before the middle: cilia dark brown edged with white. *Female* with the superior wings beautifully but irregularly freckled with brown, the strigæ strong and inclining to lead colour, nervures partially ferruginous; inferior wings faintly freckled with lead colour, strongest towards the margin.

*In the Author's and other Cabinets.*

THIS handsome group of Moths is distinguished from the greater part of the Geometridæ by the shape of the wings as well as



by the masculine antennæ, which are pectinated to the apex. They have the peculiarity of resting during the day somewhat like the Papilionidæ, with their wings erect; but I believe at night when in perfect repose the superior cover the inferior wings; and it seems they are sometimes spread, as Dr. Leach describes them, "horizontally extended."

The following British species form 2 sections.

\* *Wings indented: rays of antennæ short.*

1. *Juliana* Haw.—*Wood*, pl. 19. f. 482. var.—*ustularia* Don. 3. 82.

July, paths in woods and plantations. I think Capt. Chawner has bred this and the following insect from eggs laid by one female.

2. *illunaria* Hüb.—*Wood*, 19. 481.—*bilunaria*, *unilunaria* Esp.

March and April, shady groves, woods, and lanes; July, Mr. Wailes.

3. *lunaria* Fab.—*Don*. 4. 132.—*Wood*, 19. 483.

Widely distributed yet not abundant. June Scotland, Ambleside, and Enborne, Mr. Dale; Coomb, Darent, and other woods near London.

4. *delunaria* Hüb.—*Wood*, 19. 484. A variety of the former species probably, which has been found at Birch Wood in June or July.

5. *sublunaria* *Step. Ill. pl.* 28. f. 1.—*Wood*, 19. 486.

From Derbyshire.

6. *illustraria* Hüb.—*Wood*, 19. 487.—*quadrilunaria* Esp.

Rare: May and June Birch Wood, New Forest, and near Axbridge, Mr. Streatfield.

\*\* *Wings lobed: rays of antennæ rather long.*

7. *fuscantaria* Haw.—*Wood*, 19. 485.—*Carpinaria* Haw. var. Stourton Caundle, Mr. D. Serrell.

8. *erosaria* Hüb.—*Wood*, 18. 476.—*quercinaria* Hüb.—*crasaria* Fab.—*Tiliaria* Esp.—*ochraria* *Wood*, 18. 475.

End of August, September, lime trees; October, a male on Saltpans, Pegwell Bay.

9. *angularia* Hüb.—*Curt. B. E. pl.* 667. ♂ ♀.—*carpinaria* Hüb. ♂.—*erosaria* Esp.—*Quercaria* Hüb.—*Wood*, 19. 478.

Aug. and beginning of Sept. thickets and plantations near London on lime trees. The larva is copied from Hübner.

10. *Tiliaria* Hüb.—*Wood*, 18. 473. & 19. 480 ♂. var. ?—*Canaria* Hüb.—*Wood*, 18. 474.

End of August, woods round London, Glanville's Wootton, and as far north as Cumberland.

11. *Alniaria* Linn. I believe is not British, but it is common on the elms in the environs of Paris.

The Plant introduced, to which most of the 2nd section are attached, is *Tilia europæa*, Broad-leaved Linden or Lime-tree.





## EUBOLIA CERVINARIA.

## The Mallow Moth.

ORDER Lepidoptera.

FAM. Geometridæ.

*Type of the Genus, Phalæna Chenopodiata Linn.*

EUBOLIA Goda., Curt.—Larentia Treit.—Geometra Linn., Hüb., Haw.

*Antennæ* inserted on the crown of the head close to the eyes, rather short, setaceous, bipectinated in the males, each joint producing a pair of shortish clavate pubescent rays, with a bristle at the apex of each (1): pubescent beneath, with a few bristles in the females (2).

*Maxillæ* as long as the antennæ, slender and spiral (3).

*Labial palpi* porrected horizontally, a little beyond the head, the points meeting and forming a beak, densely clothed with scales (4); triarticulate, basal joint the longest and stoutest, curved at the base, 2nd a little shorter, much slenderer and nearly linear (a).

Head small; eyes rather large and globose (7, the profile). Thorax small. Abdomen longish, linear, the apex obtuse and tufted in the males, conical in the females. Wings forming a triangle in repose, superior semifolliiform; inferior ovate-trigonate; cilia moderate. Legs long and slender: thighs, intermediate the longest: tibiæ, anterior short, with an internal spine, intermediate slender and clavate, with a pair of short strong spines at the apex; hinder longer and stouter, with a pair of unequal stoutish spurs at the apex, and a pair below the middle longer and slenderer: tarsi 5-jointed, basal joint long: claws and pulvilli minute. (8†, the hind leg).

Larvæ loopers, naked, with 6 pectoral, 2 abdominal and 2 anal feet.

CERVINARIA Hüb.—Curt. Guide, Gen. 907. 1.

Silky; reddish brown, superior wings with a small space at the base and a narrowish fascia across the middle, a little dilated at the costa, dark brown, the edges of both waved and bordered with a whitish line, posterior margin dark with a serrated white line and a dark streak at the apex: inferior wings pale fuscous, the lower portion lighter, the margin dark reddish brown with an indistinct whitish crenated line.

*In the Author's and other Cabinets.*

MONS. DUPONCHEL has included in his genus Eubolia many of my Zerynthiæ (fol. 296), which, however artificial our arrangement of the Lepidoptera may be, are readily distinguished by the longer rays of the masculine antennæ, and these are not armed at the apex with a bristle as in Eubolia. *C. propugnata* also forms a part of his group, an insect which belongs to a different section, owing to the simple antennæ of the males; it is a true Cidaria. Great confusion has also been



made with the 2nd species, which has induced me to re-examine the Linnæan Cabinet: there I find three specimens alike, one labelled *Chenopodiata* apparently in the younger Linné's autograph, with another *Phalæna* by the side unnamed; it is the *P. mœniaria* Fab. which I once took in the forest of Fontainebleau. *P. comitata* has also a label bearing that name in the same hand writing, and there is another specimen labelled *dotata*, which is a species figured by Clerck; but on referring to tab. 5. f. 15, I find his insect is the *P. Spinachiata* Haw. and the *G. marmorata* Hüb. I therefore consider that the English Lepidopterists are right regarding those *Phalænidæ*, and in order to identify the species I shall add the essential characters of Nos. 2 and 3.

1. *cervinaria* Hüb.—*Curt. Brit. Ent. pl.* 707 ♂.—*clavaria* Haw.

In perfect specimens the upper wings have a bloom upon them, and the pale band across the middle is obliterated as in the male figured in our plate.

Found on mallows the middle of October, and the larva feeds on those plants: my figure is copied from Hübner.

2. *Chenopodiata* Linn.—*Wood, pl.* 20. *f.* 545.—*mensurata* Hüb. *Goda.*

Superior wings tawny or reddish fuscous, with numerous undulating lines; a fascia in the middle bearing a black dot and a dark oblique line at the apex: inferior wings of the male with 2 or 3 darker lines beyond the centre which is of a lighter colour, the margins darker, those of the female paler: 16 to 18 lines in expanse.

End of June to Sept. in bushy places, in such abundance, that it has obtained the appellation of the Aurelians' plague. The larva feeds on *Bromus arvensis*.

3. *bipunctaria* Fab.—*Wood, pl.* 21, *f.* 547.

Wings cinereous-white, with numerous waved lines; a fascia across the middle, the margins fuscous and crenated, with a double black dot on the disc: 16 to 17 lines.

Chalky places, middle of July to middle of August abundant amongst coarse grass near Mickleham; the Castle-hill, Dover; and Niton in the Isle of Wight. The larva feeds on *Trifolium pratense* and *Lolium perenne*.

The plant is *Althæa officinalis*, Common Marsh Mallow.





— by Pers. Jan. 11

## ZERYNTHIA LATENTARIA.

ORDER Lepidoptera. FAM. Phalænidae *Lat., Leach.*

*Type of the Genus, Phalæna didymata Linn.*

ZERYNTHIA *Nob.*—*Cidaria Zerene* and *Fidonia Treit.*—*Geometra Hüb., Haw.*—*Phalæna Linn., Fab., Lat., Don.*

*Antennæ* inserted on the crown of the head close to the eyes, rather short, pectinated in the males, composed of numerous oblong joints covered with scales above, each producing 2 long pubescent branches (1), excepting 2 or 3 at the base; towards the apex they become short, and several of the terminal joints have none (1 b); in the females they are quite simple (2).

*Marillæ* the length of the antennæ, spiral, furnished with peduncled glands at the apex (3).

*Labial Palpi* short, clothed with scales (4); triarticulate, basal and 2nd joints not very long, of equal length, the former curved, the latter straight, 3rd minute subglobose (4 a).

Head short. Eyes globose (7). Thorax lobed. Abdomen slender, linear and obtuse in the males, ovate-conic in the females. Wings, superior subtrigonal; inferior not very ample. Thighs, hinder rather short. Tibiæ, anterior short with a spine on the internal side, middle and posterior spurred, the latter long with a pair of spurs below the middle. Tarsi longer than the tibiæ in the anterior and shorter in the other legs, the basal joint the longest. Claws and Pulvilli minute (8†, a hind leg).

Caterpillars loopers, with 6 pectoral, 2 abdominal and 2 anal feet.

LATENTARIA *Nob.*

Cinereous, minutely freckled with black. Superior wings variegated with a tint of ochre, having 7 or 8 irregular waved strigæ, darkest at the costa, the space between two forming a more or less decided bar across the middle, the external margin of which is crenate and edged with a whitish line; in the centre is a black dot; posterior margin with 7 pairs of black dots; the cilia maculated. Inferior wings duller, with a black point between the base and middle, beyond which are a few indistinct irregular and waved lines, some of them forming an obscure fimbria; the margin having 6 pair of black dots, and the cilia slightly maculated. Body with the segments whitish at the margins. Legs annulated.

*In the Cabinets of Mr. Dale and the Author.*

Most of the following species are included in the genus *Cidaria* by Treitschke, but as the antennæ of the male in his first species (*Phalæna propugnata* F.), which I presume is the type, are merely ciliated and not pectinated, it has become necessary to designate the succeeding group by another name.



1. *Z. munitata*. *Hüb. pl.* 66. *f.* 346.—*Haw.* 328. 34?

I first took a female of this rare moth on the Ochil Hills near Stirling, the 5th July; on the 20th, a male in a damp spot upon a heath near Killin; and soon after, others in the Isle of Bute; and subsequently Mr. Dale, Mr. Marshall and myself, captured several amongst coarse grass on the sides of Skiddaw. It is said also to be common at Westerham in Kent, amongst Pine-trees, the beginning of June and end of September. I should not have put a query to the reference to Mr. Haworth's work, as he quotes Hübner's figure, had he not also referred to Donovan's *Phalæna tristrigaria*, which is a male with simple antennæ, and probably a variety of *Phalæna variata* Hüb.

2. *Z. 4-fasciaria* L.—*Haw.* 307. 100.—*Ligustrata* *Hüb.* 55. 282 *fem.*—End of June, trunks of trees and gardens, Norfolk and Suffolk, and end of July, hedges, Hertford.

3. *Z. unidentaria*. *Haw.* 308. 101.—*4-fasciata*. *Hüb.* 55. 284 *fem.*—Middle of May, Coomb Wood; June and August, amongst Elms.

4. *Z. ferrugaria* L.—*Haw.*—*Hüb.* 55. 285 *mas. var.* and 89. 460 *fem. var.*—*Salicaria* *Haw. var.*—Very common in May and June in hedges.

5. *Z. olivaria*. *Hüb.* 59. 307.—*Haw.*—End of August; Birch-trees, Kent, and trunks of Beech-trees, Inverary, and sides of rocks at the Trossacks.

6. *Z. latentaria*. *Curt. Brit. Ent. pl.* 296.—Taken in abundance by Mr. Dale and myself on walls and rocks near Ambleside, 8th June.

7. *Z. Salicata*. *Hüb.* 53. 273.—This is distinguished from the last by its smaller size; and the wings, especially the inferior, are scarcely at all freckled. Mr. Dale first discovered this in Scotland, and I think Mr. Marshall has taken it near Keswick, the end of August.

8. *Z. didymaria* L.—*Haw.*—*scabrata*. *Hüb.* 44. 229 *mas, var. ?*—End of July, Kent, Norfolk, Yorkshire, and Scotland.

9. *Z. viridaria*. *Fab. Syst. Ent.*—*Haw.*—*miata*. *Hüb.* 57. 292.—*pectinitaria*. *Don.* 14. 479. 1.—June, open parts in Woods.

10. *Z. fluctuata* L.—*Hüb.* 48. 249.—*Haw.*—May, gardens.

11. *Z. costovata*. *Haw.* 334. 54.—Probably a variety of the last; May, hedges.

12. *Z. implicata* Vill.—*Haw.*—*montanata*. *Hüb.* 48. 248 *fem.*—May and June, open places in Woods.

13. *Z. Vauaria* L.—*Wauaria*. *Hüb.* 11. 55.—*Don.* 6. 196.—*V-nigraria* *Haw. var.*—*Ent. Trans. pl.* 7. *f.* 3.—June and July, gardens. This species does not associate well with the others, but at present I know of no better situation for it.

The plant is *Carduus* (*Cnicus*) *arvensis* (Creeping Thistle).





## VENUSIA CAMBRICA.

ORDER Lepidoptera.

FAM. Phalænidae.

*Type of the Genus, Venusia Cambrica.*

VENUSIA Curt.

*Antennæ* inserted close to the eyes, on each side of the crown, rather short, setaceous, scaly and bipectinated in the male (1), the rays close, short, clavate and ciliated, becoming very short towards and vanishing at the apex.

*Maxillæ* spiral, not so long apparently as the antennæ (3).

*Palpi* very short, not projecting beyond the head, nearly horizontal, slightly curved and scaly (4), triarticulate?

Head small subglobose, densely clothed with close scales (7, the profile): eyes moderate, oval. Thorax subglobose. Abdomen somewhat linear, the apex a little tufted in the male. Wings probably forming a triangle in repose: superior subtrigonate-ovate: inferior trigonate-ovate: cilia shortish. Legs rather long and slender: thighs rather long: tibiæ, anterior short, with an internal spine, the others long and slender, with a pair of short spurs at the apex, the hinder the longest, with a pair also a little above the apex (8 †, a hind leg): tarsi 5-jointed, basal joint the longest: claws and pulvilli minute.

CAMBRICA.—Curt. *Guide, Gen.* 907<sup>b</sup>.

Light bright gray, freckled with pale brown: antennæ yellowish-brown; a transverse band on the forehead and the palpi dark brown: superior wings with numerous sinuated strigæ forming patches on the costa: basal striga a black thin line, a pale brown pair next; another fine dark pair, not symmetrical, before the middle, and a pair beyond it, the inner one black as well as the nervures, where they intersect it, the other is broader and yellowish-brown, and there is a pair of crenated brown strigæ towards the posterior margin, the points on the nervures black, the outer striga faint; a line of 7 sublunate brown spots at the base of the cilia: inferior wings white with a delicate pair of strigæ across the middle, and a crenated pair towards the margin, all darkest at the interior margin, 6 or 7 brown lunate marks at the base of the cilia, which are white in all the wings.

*In Mr. Dale's Cabinet.*

THIS pretty little moth appears to be so nearly allied to the genus *Zerynthia* (pl. 296), that I should not have given a figure and description of it here, had it not been an undescribed and very interesting species, from the approach which it makes to *Oporabia multistrigaria*; indeed I should have included it



in that genus, but it is doubtful whether it may not be necessary to remove the *Oporabia* to the genus before us: the antennæ are similar, but the wings have not the contour and texture of the type of *Oporabia* which those of *O. multistrigaria* have; this last species has been included by the author of the 'Illustrations' in the genus *Larentia* (*Eubolia* B. E. pl. 707), with which it cannot be naturally associated.

*Oporabia dilutata* is characterized by very ample superior, and rather elongated and narrow inferior wings, and the masculine antennæ are merely ciliated.

*O. multistrigaria* has less ample but similarly formed wings, with the masculine antennæ bipectinated, the rays short.

*Venusia Cambrica* has more compact wings, formed like those of *Zerynthia*, but the markings bear a greater resemblance to *Oporabia* or *Lobophora* (pl. 81). It is possible that the discovery of the female might lead to the settling of its affinities, but that sex is at present unknown.

The only specimen I have seen of *V. Cambrica* was taken at Hafod in Cardigan, near the Devil's Bridge, and was given to J. C. Dale, Esq., by Mr. House, of Clifton, near Bristol.

For beautiful specimens of *Mespilus germanicus*, Medlar-tree, I am indebted to Mr. Luxford, who gathered them last June between Reygate and Nutfield, Surrey.





## EPHYRA PICTARIA.

## The Kent Mocha or Grey Carpet.

ORDER Lepidoptera. FAM. Phalænidæ.

*Type of the Genus, Geometra punctaria Linn.*EPHYRA Goda, Curt.—Cyelophora & Cleora Steph.—Cabera Treit.—  
Geometra Linn., Haw.*Antennæ* inserted on the crown of the head, short, bipeetinated in the males, the rays pubescent, a considerable portion of the apex simple and only pubescent beneath (1); without rays in the female (7 ♀).*Maxillæ* spiral and slender, considerably shorter than the antennæ (3).*Labial Palpi* slender, porrected obliquely and sparingly clothed with scales (4); triarticulate, basal joint a little the longest and stoutest, curved, 2nd nearly as long and stout, 3rd shorter and slender (4 a).*Sexes alike in size. Head small: eyes globose. Thorax small. Abdomen short and slender, obtuse in the males. Wings spread when at rest; superior elongate-trigonal, apex slightly falcated; inferior triangular but rounded. Legs slender: tibiæ, anterior short, with an internal spine; posterior long slender and terminated by a pair of short obtuse spurs in the male (♂♂); slightly inflated in the female, the apical spurs longer and unequal, with another pair a little above them (8 ♀): tarsi 5-jointed.**Caterpillars loopers, attenuated towards the head, with 6 pectoral, 2 abdominal, and 2 anal feet.—Fues.**Pupæ either attached by the tail and the middle (Hüb.); or inclosed in a thin web.—Fues.*

PIETARIA Thunb.?—Curt. Guide, Gen. 910. 9.

*Female, grey with a slight reddish tint, freckled and glossy; the tufts down the back of the abdomen white: superior wings slightly scabrous, with an indistinct dark line before and another beyond the middle, waved and crenated, forming a fascia considerably broader at the costa than below, with a spot of the same tint near the disc, on the posterior margin is a line of undefined pale spots on each of which is a black dot; inferior wings dirty white, the abdominal and posterior margins freckled with brown and tinted with cinereous, a crenated line across the middle, darkest on the anal margin and a line of dark brown spots on the external margin: cilia cinereous, freckled with brown.**In the Author's Cabinet.*

THIS pretty genus varies from all the family I have hitherto illustrated in having a long terminal joint to the palpi; and no



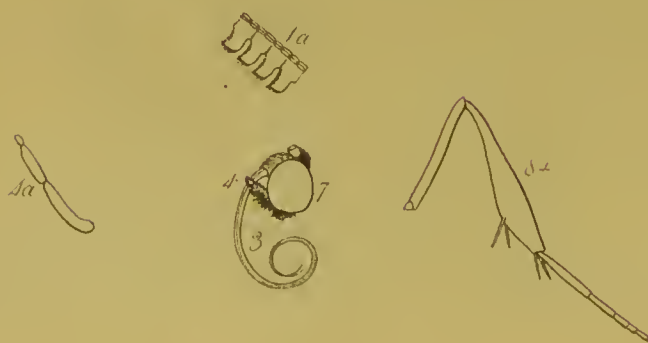
one that I am aware of has noticed the difference in the hinder tibiae, which have only one pair of spurs in the males, but two pair in the females.

Hübner represents the larvæ of *G. pendularia* as perfect loopers, and the pupæ with truncated heads and attached by the tail, with a thread round the body like *Pontia*, (the common White Butterfly,) but Fuessley in illustrating the transformations of *G. Ononaria* delineates the larvæ as imperfect loopers, and the chrysalis inclosed in a fine web.

1. *E. trilinearia* Bork.—*Goda*, pl. 171. f. 6. & 7.—*linearia* Hüb. & Haw.—Woods, Kent; beginning June near Lyndhurst, J. C.
2. *E. punctaria* L., Haw.—*subangularia* Haw. var.—*communifasciata* Don. 13. 456.—End of May and Aug., open places in woods.—The Larva feeds on the Oak.
3. *E. poraria* L., *Goda*, 172. 1.—*punctaria* Hüb.—*ocellaria* Haw. & Steph.—End of May, woods; beginning of June, Coomb-wood, J. C., also end of August.—Obs. The *G. ocellaria* Hüb., recorded by Mr. Stephens as a British insect, has never been found in this country that I am aware of.
5. *E. omicronaria* Hüb., Haw., *Goda*, 172. 7.—*annularia* Fab. End of May, June and August, Darent-wood, J. C.—The Caterpillar feeds on the Maple (pl. 328).
6. *E. pendularia* L.—Hüb., Haw., *Goda*, 172. 5.—*circularia* Fab.—End of May, Birch-trees, Coomb and Birch woods, J. C.; also end of August.—The Larva feeds on Birch (pl. 434), and Alder.
7. *E. albicincta* Haw. 344. 86.—A specimen was taken near Peckham many years back, and is in Mr. Hatchett's Cabinet.
8. *E. orbicularia* Hüb., Haw., *Goda*, 172. 6.—Middle of June, Coomb-wood; in a garden at Lambeth, Mr. Samouelle, near Brockenhurst, New Forest.
9. *E. pictaria* Thunb.?—*Curt. B. E.* pl. 447.—Although the male of this rare insect is unknown, and it has been placed in my Genus *Cleora*, I have little doubt of this being its natural situation. Mr. Jos. Standish took 3 off some paling on Dartford Heath, Kent; the finest on the 17th of April 1820, and the other two, which were rather wasted, on the 1st of May 1826; a very fine specimen was found at the same place the middle of April, and another near Charing, in the same county, by Thomas Marshall, Esq.

The Plant is *Poterium Sanguisorba* (Upland Burnet).





*J. L. Smith, J. Curtis, London, 1820.*

## CHARISSA OPERARIA.

ORDER Lepidoptera. FAM. Phalaenidæ Lat., Leach.

*Type of the Genus Geometra obscuraria Hüb.*

CHARISSA Nobis. Phalaena Linn., Fab., Lat., Leach. Geometra Hüb., Haw.

*Antennæ* arising from the back part of the head, rather robust, long, attenuated at both ends, composed of numerous transverse joints, with a few short scales above, hairy beneath, compressed and produced internally in the males (fig. 1 a), slender and setaceous in the females.

*Labrum* and *Mandibles* minute, the latter ciliated internally.

*Maxillæ* long, ciliated towards their extremity (3).

*Labial palpi* not so long as the head, nearly straight, not projecting like a beak, nor contiguous, sparingly covered with scales (4), 3-jointed, 1st joint long, curved only at the base, 2nd shorter, 3rd minute ovate (4 a).

Head small, covered with short close scales. Wings extended horizontally, undivided, superior trigonate, apex acute, margins indented, especially in the inferior wings. Abdomen long, slender and obtuse in the males, shorter and subconic in the females. Anterior tibiæ short, with an internal spine, 2nd pair with spurs at their apex, the posterior with 2 pair of spurs, sometimes subclavate in the males (8†). Tarsi 5-jointed, the basal joint in the anterior pair as long as the tibia. Claws simple, minute.

Caterpillars loopers with 6 pectoral, 2 abdominal, and 2 anal feet?

OPERARIA Hübner's Lep. pl. 69. f. 359.

Dull gray, variegated and tinged with pale ochre, glossy. Antennæ dull ferruginous. Thorax and abdomen gray, speckled with whitish scales, the latter darkest at the edges of the segments. Wings rather narrow, superior dark gray irregularly variegated with white scales, an obscure transverse curved fascia towards the base, another beyond the middle, parallel to the posterior margin, sinuated, and a pale indented one near to the same margin; 7 minute black spots at the base of the cilia, and a large obscure one near the middle approaching the costa. Inferior wings like the superior in colour, with a sinuated obscure fascia near the centre, pale at the external edge, and a paler one nearer, parallel to the margin, upon which there are a few minute black spots and a larger very obscure one between the fascia and the base. Beneath pale silvery gray variegated; the fascia and central spots very obscure.

*In the Cabinets of Mr. Dale and the Author.*



THE pectinations of the antennæ in the males, which give a robust and compressed appearance to them, will enable us to distinguish the individuals that compose this genus, which approaches very near to *Cleora*, and appears to be conterminous, and to unite the extensive groups designated as *Geometra* and *Phalæna* by Mr. Haworth and other authors. The shortness of the palpi (which are often nearly vertical, the ends only appearing from above) and the high point of insertion of the maxillæ are peculiar, as well as the clavate posterior legs of the males, which is, however, a partial character, not being very evident in *C. operaria*, although it is in the type.

The British species that this genus comprises are,

1. *Charissa operaria* Hüb.—Nob.
2.               *serotinaria* Hüb.—Haw. *Lep. Brit.* 311. 107.
3.               *pullaria* Hüb.—Haw. *Lep. Brit.* 314. 115.—  
                  *Phalæna quadripustulana* Don. *Brit. Ins.*  
                  v. 13. pl. 463.
4.               *obscuraria* Hüb.—Haw. *Lep. Brit.* 314. 116.

On the 26th July, whilst at the Isle of Bute, I took 2 males (one of which is figured) of *Charissa operaria*: Mr. Dale captured 2 others and a female soon after in the Isle of Arran. The species of this genus are generally attached to heathy situations: our insect secreted itself amongst the stones of the walls so peculiar to the North, and upon being disturbed took shelter amongst the fern during the day; and in the evening we never saw them.

The hills in Bute were covered with heath, upon which we found *C. operaria*; and about a mile from Rothsay, the plant figured, *Gentiana campestris* (Field Gentian), was in flower there at the time.





## BOARMIA TETRAGONARIA.

## The Brindled Square-spot.

ORDER Lepidoptera. FAM. Phalænidae *Lat., Leach.*

*Type of the Genus, Geometra eonsonaria Hüb.*

BOARMIA *Treit.*—Phalæna *Lin.*, *Fab.*, *Steph.*—Geometra *Hüb.*, *Haw.*

*Antennæ* inserted on the crown of the head, setaceous, clothed with scales above, composed of numerous joints, each producing a series of long curved hairs in the males (1); simple in the females.

*Maxillæ* not so long as the antennæ (3).

*Labial palpi* short, porrected horizontally, thickly clothed with short scales (4); triarticulate, 1st and 2nd joints of equal length, the former curved, the latter oval, 3rd very minute (4 a).

Head small. Eyes large globose (7 a). Thorax not large. Abdomen rather long, slender, and attenuated in the males; shorter, subconical or acuminate in the females. Wings extended horizontally when at rest, superior subtrigonal, inferior with the margin deeply indented. Legs, anterior with the tibiæ producing a broad lobe at the middle, ciliated on the inside and acuminate at the apex, the others spurred, the hinder ones with a pair towards the middle. Tarsi 5-jointed, basal joint as long as the tibia. Claws simple. Pulvilli distinct, each side producing a ciliated lobe or appendage. Caterpillars loopers, with 6 pectoral, 2 abdominal, and 2 anal feet.

TETRAGONARIA *Haw. MSS.*

Dirty white, freckled with black. Antennæ spotted with brown. Thorax with the tips of the anterior scales brown. Abdomen with the 2nd joint brown, darkest at the base. Anterior wings clouded with brown; a brownish curved fascia towards the base, the edges irregularly darker, across the middle runs a very obscure and broken line, divided or forming a loop near the costa, beyond are 2 pale sinuated lines, the 1st interrupted and edged with black, the 2nd somewhat dentated, between them is a large brown spot at the costa and a square one of the same colour in the centre; the space between the 2nd striga and the posterior margin (which is dotted with black) is clouded with brown, darkest a little below the apex. Inferior wings with a small unspotted space at the base, followed by a thickly dotted one; 2 indented broken lines across the middle, darkest at the abdominal margin, with a lunular spot between them, beyond the 2nd are two brown waved strigæ and a series of brown dots on the margin which is crenate-serrate.

*In the Author's and other Cabinets.*



WHEN I published, a few years since, the type of my genus *Cleora*, I unfortunately had not a male; and from the appearance of the females I was led to think that the insects which form the present group *Boarmia* would associate with them. Mr. Lyell having kindly presented me with the male of *Cleora cinctaria*, I find it has beautifully pectinated antennæ similar to those of *Alcis*; whereas in *Boarmia* they are pilose beneath in this sex, each joint producing across the middle a line of long curved hairs. The palpi are short and densely clothed with scales: the anterior tarsi are furnished with a broad spine near the middle, externally covered with scales, acute at the apex, and emarginate on one side, where it is ciliated with long hairs. There can be little doubt that this spine is the analogue of that which we find attached to the anterior tibiæ in the Hymenoptera; but in the Lepidoptera it is placed further from the apex, and I am not able to determine for what purposes it is intended.

The British species of *Boarmia* are

1. *B. tetragonaria* Curt. Brit. Ent. pl. 280.

The female figured I found upon the trunk of a tree in Birch-wood, the 6th of May 1821; it was cold and windy, with sunshine and sudden showers.

2. *B. Abietaria* Haw. 276. 14.

The moth is found in woods on the trunks of trees the end of March. This is not the *G. Abietaria* of Hübner, which is not only differently marked, but the antennæ are strongly pectinated, and it is probably my *Alcis Australaria*.

3. *B. crepuscularia* Hüb. pl. 30. f. 158.—Haw.

July, skirts of woods.

4. *B. consonaria* Hüb. pl. 30. f. 157.—Haw.

Middle of May, trunks of trees, Coomb-wood.

5. *B. strigularia* Steph.

6. *B. extersaria* Hüb. pl. 30. f. 159.—Haw.

In woods, the beginning of July.

7. *B. punctularia* Hüb. pl. 61. f. 317.—Haw.

Trunks of birch-trees, the middle of May, in Birch- and Coomb-woods.

The plant is *Ophrys* (*Aceras* Brown) *anthropophora* (Green Man-orchis).





## HYBERNIA DEFOLIARIA.

The mottled Umber Moth.

ORDER Lepidoptera.

FAM. Phalænidæ.

*Type of the Genus, Geometra defoliaria Linn.*HYBERNIA *Lat., Goda., Curt.*—Fidonia *Treit.*—Geometra *Linn., Hüb., Haw.**Antennæ* inserted on each side of the crown close to the eyes, rather short, setaceous, clothed with scales, bipectinated in the males, the joints producing 2 teeth on each side, with a series of curled hairs projecting from the apex (1).*Maxillæ* very short, not longer than the labial palpi, forming 2 lanceolate lobes, very broad at the middle (3), with a small *Palpus* attached at the base, composed of 3 joints, 1st minute, 2nd much larger, obovate, with some long scales above, 3rd very minute (a).*Labial palpi* very small, horizontal, clothed with long scales beneath (4); triarticulate, basal joint the longest and largest, curved at the base, 2nd short subtrubinate, 3rd a little smaller and subovate (4 a).*Trophæ* of females similar but a little shorter, especially the Palpi.

Male: head *small and short* (7): eyes *lateral and globose*. Thorax *small*. Abdomen *neither long nor stout, slightly tapering, tufted at the apex*. Wings *very ample, forming a triangle in repose: superior elongate-trigonal, the apex perfectly rounded: inferior trigonal-ovate: cilia moderate*. Legs *slender: thighs equal: tibiæ, anterior the shortest with an internal spine, the others with spurs at the apex, very short in the hinder, with a pair also considerably below the middle* (8†): tarsi *5-jointed, anterior the longest: claws and pulvilli minute*. Female *apterous or with rudimentary wings*. Abdomen *elongate-conic: oviduct short and pilose*. Legs *stoutish: anterior tibiæ without spines*.

Larvæ *loopers, slightly hairy, with 6 pectoral, 2 abdominal and 2 anal feet*.

DEFOLIARIA *Linn.*—*Curt. Guide, Gen. 914. 3.*

Ochreous, with large purplish freckles: superior wings with a brown curved fascia near the base, more or less irregular, and another of the same colour beyond the middle, with the edges very much sinuated and often edged with dark brown, a large blackish dot on the disk and a few brown spots on the cilia towards the apex: inferior wings with a pale livid spot on the centre. *Female* yellowish white, spotted with blue-black: thorax with 4 spots, a double line of large spots down the back and the legs blue-black, the thighs and tibiæ annulated with white.

*In the Author's and other Cabinets.*



THE males of this genus are remarkable for their handsome, large delicate wings, whilst the females on the contrary are totally destitute of them, in the typical species.

Fortunately in this country the larvæ are never known to do any mischief, but in France the caterpillars of the species figured sometimes do very extensive injury by destroying the leaves, especially of fruit trees; but M. Duponchel mentions an admirable plan for checking their ravages: it is by washing a space round the base with a glutinous matter, so that the females, as they pass up the trunk in order to lay their eggs upon the leaves, may be entangled by the gluten and perish, and he adds that by the destruction of one female the birth of 300 caterpillars at least is prevented. Shaking the trees smartly is also effective by causing the larvæ to fall, but it is likewise injurious to the fruit.

1. *stictaria* Haw.—*capreolaria* Esp. Wood, pl. 18. f. 461.—*progemmaria* Hüb.—*connectaria* Haw. var. Wood, f. 462.

Middle of February to end of March, paling, Regent's Park; Newcastle; Epping; Glanville's Wootton and Enborne, Mr. Dale.—*connectaria* Oct. Nov. and Dec., Epping and round London. The larva feeds on the oak and birch.

2. *prosapiaria* Linn. Wood, f. 463.—*aurantiaria* Hüb.—*testacearia* Vill. var.

In woods the end of October, trunks of trees, Coomb and Darent Woods; Epping; not uncommon at Southgate; from 11th Nov. to 23rd Dec. at Glanville's Wootton, Mr. Dale: also near Edinburgh. Larva on oak, hornbeam, and birch.

3. *defoliaria* Linn. Curt. B. E. pl. 703 ♂. ♀.

The larva, which feeds on the oak, lime, alder, &c., is copied from Hübner: the moth, which is extremely variable in colour, is found on the trunks of trees the end of October; Mr. Heysham has taken it in Cumberland as well as the foregoing. Glanville's Wootton, from 5th Nov. to 15th Dec., Mr. Dale.

ANISOPTERYX Step.—*Female with rudimentary wings.*

4. *leucophæaria* Hüb. Wood, f. 459.—*nigricaria* Haw. var.—*luctuaria* Haw. ♀.

January and February, trunks of trees, and females in April. Capt. Chawner has taken this sex paired with the male of *H. stictaria*!

5. *Æscularia* Hüb. Wood, f. 460. March, on paling.

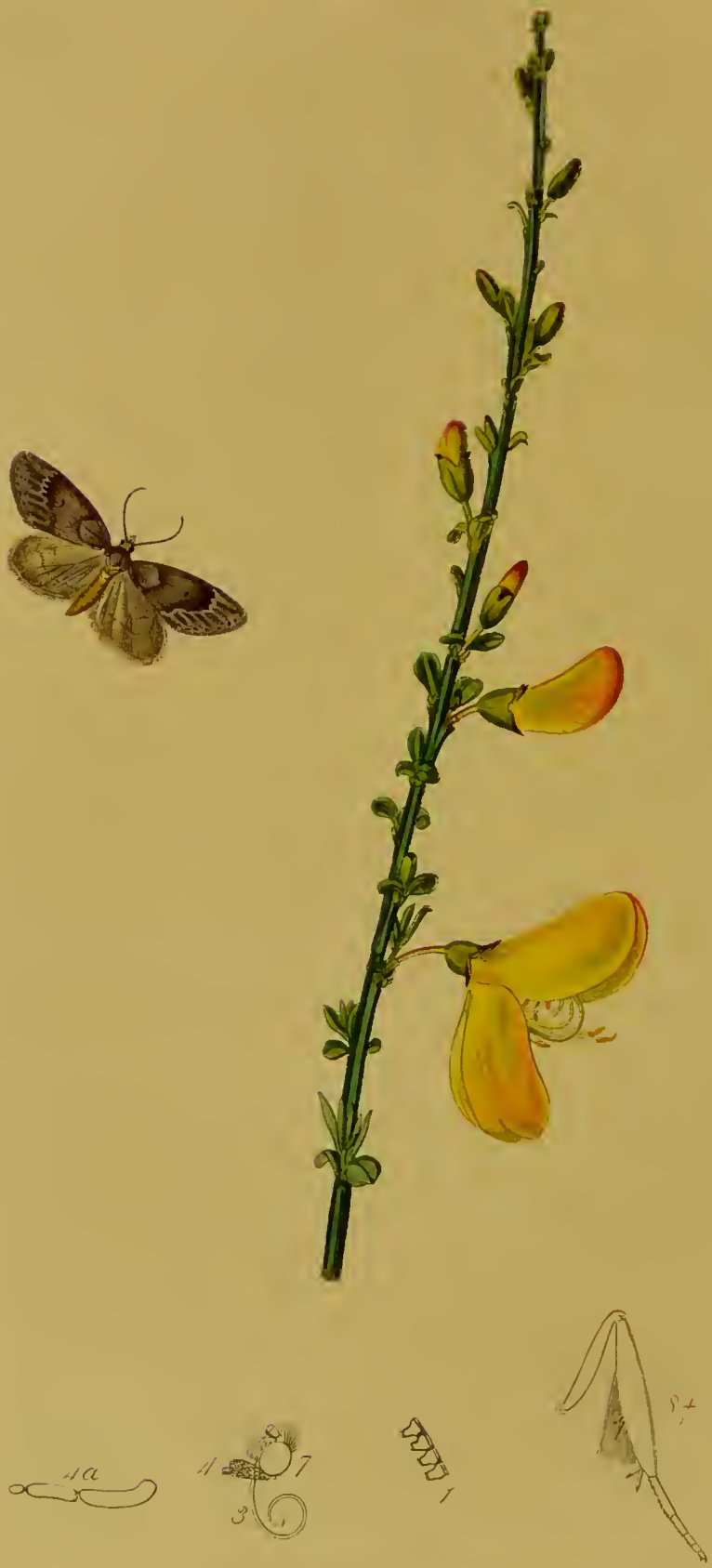
CHEIMATOBIA Step.

6. *rupicapraria* Hüb. Wood, pl. 23. f. 641.—*primaria* Mars. Antennæ bipectinated in the male. Jan. and Feb. hedges.
7. *brumata* Linn. Wood, 640.—*vulgaris* Ste. Antennæ with short cilia on both sides. Nov. Dec. and Jan. on paling and hedges.

The Plant is *Alnus glutinosa*, Common Alder.







## PACHYCNEMIA HIPPOCASTANARIA.

ORDER Lepidoptera.

FAM. Phalænidae.

*Type of the Genus, Geometra Hippocastanaria Hüb.*

PACHYCNEMIA *Step., Curt.*—Chesias *Och., Goda.*—Geometra and Alsophila *Hüb.*—Phalæna? *Haw.*

*Antennæ* rather short, inserted close to the eyes on the crown of the head, slightly thickened in the middle and serrated in the male (1), clothed with scales above, pubescent beneath.

*Maxillæ* nearly as long as the antennæ, slender and spiral (3).

*Labial palpi* forming a short beak, porrected horizontally, rather stout and clavate, clothed with small scales (4); triarticulate, basal joint considerably the longest, curved at the base, 2nd nearly straight and linear, 3rd minute and oval (4a).

Head *small*: eyes *rather large and prominent* (7). Thorax *small*.

Abdomen *slender, slightly curved and tufted at the apex*. Wings *forming a triangle in repose*, superior *narrow, elongate-trigonate, the apex ovate*: inferior *trigonate-ovate*. Legs, *posterior short*: tibiæ, *anterior short, with an internal spine, the others spurred at the apex, posterior incrassated in the male, subfusiform, with a fascicle of long hairs on the inside, a pair of short spurs at the apex, and another pair, one being very short, a little below the middle* (8†).

Larva *unknown*.

HIPPOCASTANARIA *Hüb.*—*Geom. pl.* 36. *f.* 186. ♂.—*Curt. Guide, Gen.* 916. 1.—*anomalata Haw. in Ent. Trans.*—*degenerata Hüb. pl.* 78. *f.* 405. ♀.

Shining reddish-grey; superior wings with a broad pale brown fascia narrowed towards the interior margin, the basal margin angulated, the posterior crenated, with a paler external edge, a lunate dot on the disc more or less obscure and the nervures partially brown; the margin at the base of the eilia dotted with brown: abdomen and inferior wings very pale ochre, the latter inclining to cinereous, except at the base, with a sinuated line across the middle and an obscure spot on the disc.

*In the Author's and other Cabinets.*

THIS insect is nearly allied to *Geom. Spartiata* and *obliquata*, and is included with them and many other incongruous species in the genus *Chesias* by Treitschke, but their palpi and legs are differently formed.

The early states of *Pachynemia* are unknown, but from the specific name of *Hippocastanaria*, Hübner must have supposed that it was an inhabitant of the horse-chestnut tree: M. Duponchel however is of opinion that it is attached to the Spanish chestnut, as he has never found it excepting in woods where that tree exclusively grows; in England it seems to frequent heathy districts, and I think it has been taken very far from either of those trees by my friend Mr. Dale.

It is rather of rare occurrence in this country, and few moths vary more in the time of their appearance: a female was found as early as April on Ockham Heath in Surrey, but Mr. Dale has taken specimens from the 25th of March to the beginning of September on Parley Heath, Hampshire, and in the New Forest where it is most abundant in July; it has also occasionally been met with near Birch Wood in Kent, and at Rochford in Essex.

Hübner's figure of *G. degenerata* is no doubt drawn from a wasted specimen of the female of *P. Hippocastanaria*.

The Plant is *Spartium* (*Cytisus* Linn.?) *scoparium*, Common Broom.





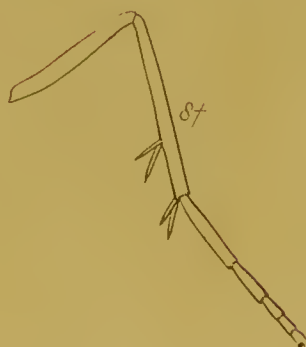


Plate by J. C. Smith, et J. P. Smith

## THERA CONIFERATA.

## The Durham Juniper Moth.

ORDER Lepidoptera.

FAM. Phalænidæ.

*Type of the Genus, Geometra variata Hüb.*

THERA Step.—Chesias Och., Goda.—Geometra Linn., Hüb.—Phalæna Haw.

*Antennæ* inserted close to the eyes on the crown of the head, filiform, moderately long, clothed with scales above, and densely covered with short hairs beneath (1 ♂); a little more slender in the females.

*Maxillæ* spiral, nearly as long as the antennæ, and rather stout (3).

*Labial Palpi* projecting beyond the head nearly horizontally, their points often meeting like a beak, densely clothed with scales, making them appear in profile obtuse and clavate (4); triarticulate, basal joint long and curved, 2nd as long and straight, 3rd small ovate (4 a).

Head small and globose: eyes orbicular and prominent. Thorax with a small tuft on the back. Wings, superior subtrigonate, with the costa arched, covering the inferior, which are rather narrow, and forming a triangle in repose. Abdomen rather long, linear and tufted at the apex in the male, more conical at the apex in the female. Legs moderately long: thighs slender, nearly of equal length: tibiæ, anterior not very short, intermediate terminated by a pair of spurs, posterior with 4 long spurs, one pair below the middle, all of them having a minute spine at the apex (8 †). Larvæ loopers, smooth and cylindrical, with 6 pectoral, 2 abdominal and 2 anal feet. Pupæ acuminate at the apex.

CONIFERATA Curt. MSS.—Guide, Gen. 918.

Shining reddish brown, eyes black, a little larger in the male than female: superior wings with the base darker brown, inclosing 1 or 2 strigæ, a narrow fasciæ of the same colour across the middle, broadest at the costa and suddenly dilated externally, with an indistinctly ocellated oval spot at the apex of the discoidal cell, the edges of the fasciæ are blackish, especially at the interior margin, and inside at the middle, and edged with an irregular pale line outside; towards the posterior margin is a whitish crenated line, with 2 or 3 blackish streaks outside towards the apex, and at the base of the cilia are 7 or 8 pairs of dark dots; inferior wings dull ochreous white, inclining to reddish brown at the margin, the edge of which is darker with dots: abdomen freckled with brown and white; tuft at apex of male dull ochreous.

*In the Cabinets of Mr. Wailes, the Author, &c.*

IN many respects this group approaches very near to *Electra*, and in others to *Lobophora* (fol. 81.), but from the latter it is distinguished by the absence of the lobe to the inferior wings.

The following species are recorded as British, and are divided into:

\* Antennæ simple in both sexes.

5. *T. Coniferata* *Curt. Brit. Ent. pl.* 519. ♂.

As this insect neither agrees with Linnæus's description nor with Hübner's figure of *Juniperata*, I have thought it advisable to give it a name: whether it be the same species as that found at Birch-wood, and described as the *P. Juniperata* of Linn., I am not prepared to determine.

I purchased a specimen last year of Mr. E. A. Johnson, and have since received another from Mr. Wailes, who took them, I believe, at Castle Eden Dene.

2. *Juniperata* *Linn. F. S.* 1269.—*Hüb. Geom. pl.* 57. f. 294.  
—*Goda. pl.* 206. f. 3.

“Wings cinereous: superior with a cinereous fascia at the base, a broader one in the middle, unequal, almost interrupted at the interior margin; a fuscous line at the apex. The remainder entirely cinereous, with a fuscous line at the posterior margin.” *Linn.*

1. *fulvata* *Fab.*—*obeliscata* *Hüb. f.* 296.—*Goda.* 206. 6.

Recorded as having been taken by T. C. Heysham, Esq., in Baron-wood, Orton.

3. *variata* *W. V.*—*Hüb. f.* 293.—*Goda.* 206. 4.?—*Ent. Trans. tab.* 6. f. 3.

Very plentiful in July and Sept. where Fir-trees abound. Whether Donovan's *P. tristrigaria* v. 13. pl. 461. f. 2. be intended for this or the next species is doubtful, but I have never seen black streaks in the superior wings of the following.

\* \* Antennæ of the male bipectinated.

4. *simulata* *Hüb. pl.* 66. f. 345.

It is remarkable that M. Treitschke and M. Duponchel take no notice of this insect. The males are readily distinguished from all the others by their antennæ, which are bipectinated, as represented at fig. S. ♂, and I do not feel certain that ours is Hübner's insect. They agree in colour, it is true, but his appears to be the male, with simple antennæ, and the fascia of our insect is differently formed: it is always triangularly indented on the inside, and the basal spot is very much angulated to correspond with it. Should they be distinct, the name of *consobrinata* would not be inapplicable.

On the 7th Sept. I captured several of both sexes: they were flying in a fir-plantation at Durnford in Wiltshire, and alighting amongst the heath that grew there.

The Plant is *Juniperus communis* ♂ (Juniper Tree).





*Pub. by J. Curtis. London May 1826*



## LOBOPHORA POLYCOMATA.

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ORDER Lepidoptera. FAM. Phalænidae *Lat., Leach.*

*Type of the Genus Phalæna hexapterata Fab.*

LOBOPHORA *Steph. MSS.* Phalæna *Fab., Haw., Hüb., Leach.*

*Antennæ* rather short, setaceous, composed of numerous transverse joints covered with hair and scales (f. 1, a few joints magnified).

*Maxillæ* not very long (3).

*Labial palpi* short, distant, incurved (7), thickly covered with scales (4), 3-jointed; 1st joint cylindric-quadrate, 2nd long attenuated, 3rd short, somewhat truncate obliquely (4 a. the joints denuded).

Head small. Abdomen slender. Wings entire, extended horizontally when at rest, superior long, somewhat lanceolate, inferior small in the males, with a lobe attached at the base of the abdominal margin. Legs rather slender. Tibiæ, anterior not longer than the basal joint of the tarsus (8): 4 posterior having 2 spurs only at their apex in the 2nd division (8 a and 8 b). Tarsi 5-jointed. Claws and pulvilli distinct.

Larvæ loopers, with 6 pectoral 2 abdominal and 2 anal feet.

Obs. The dissections are all taken from *L. polycomata*.

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POLYCOMATA *Hüb. Schmet. Geom. II. Æquivocæ B. pl. 38. f. 190.*

Very pale, variegated with irregular waves of brown. Superior wings with an angulated transverse line near the base, and a broad bar near the centre, angulated towards the costa, ferruginous, the latter with a large pale spot next the costa and a small one upon the interior margin, the nerves intersecting the bar black; posterior limb with an interrupted fuscous wave, the margins very pale; costa, cilia, and posterior margin fuscous, the latter with the nerves, and a row of dots along the extremity black. Inferior wings very pale, dull ochraceous, with 2 indented transverse lines near the middle, margin with a row of black dots. Beneath cinereous-ochraceous, with a brown line extending across the wings near the centre, and an oval spot of the same colour near the base next the costa.

*In the Cabinet of Mr. Stone.*

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THIS insect (new to Britain) being analogous to several groups that are widely distributed through the extensive family to which it belongs, it became necessary to pay particular attention to its structure; and I was much gratified to find that Hübner had given a figure of its larva in the same plate with those of *Geometra sexalisata* and *lobulata*, thereby confirming the opinion that I had formed when I assigned it to the situation which it now holds. The 3 larvæ, as might be expected, are very similar; and I regret that I did not meet with it in time to introduce it into the plate: it is bright green beneath, duller green above, with a narrow yellow line down each side. (Vide Hübner's *Supp. Geometrae II. Æquivocæ G. a. b. fig. 2. a. b.*)

This pretty genus now contains 6 British species, which must form 2 divisions.

\* Inferior wings of males with large lobes, posterior tibiæ with 2 pair of spurs.

1. *L. sexalisata* Hüb., Haw.
2. *hexapterata* Fab., Haw., Don. v. 6. pl. 192.

\*\* Inferior wings with small lobes, posterior tibiæ with 1 pair of spurs.

3. *lobulata* Hüb.—*dentistrigata* Haw.
4. *costæstrigata* Haw.
5. *polycomata* Hüb.
6. *viretata* Hüb.—*trinotata* Don. v. 14. pl. 499. f. 1. 1.

I would wish here to call the attention of the student to the structure of the legs of our species (one of each pair being figured, and in which I believe all those of the 2nd division agree), the posterior tibiæ being deficient of a character, which I have never seen wanting in any other group of this family, all other *Phalænida* having another pair of spurs below the middle. It is also worthy of remark, that *Geometra multistrigaria* Haw., and *G. dilutata* Hüb. and Haw., have the remarkable oval spot beneath at the base of the wings, and that in habit it somewhat resembles *Phalæna rufata* Fab., and *Phalæna brumata* Linn.; and it is probable that *L. polycomata* will assist in bringing together these species, which are now so unnaturally scattered through the family.

Two females of our insect were taken in a lane near Dartford Heath, Kent, upon Black Thorn, the beginning of April 1824; and Mr. B. Standish took two males upon the wing the 10th April this year, in the same place.

*Prunus spinosa* (Sloe Tree or Black Thorn) is figured with the insect.





*Publ. by J. Murray London 1843*

## EUPITHECIA LINARIATA.

The beautiful Pug.

ORDER Lepidoptera. FAM. Phalænidae *Lat., Leach.**Type of the Genus Phalæna Absinthiata Linn.*EUPITHECIA nobis. *Phalæna Linn., Fab., Haw. Abraxas Leach.*

*Antennæ* alike in both sexes, inserted towards the posterior part of the head, close to the eyes (f. 7), rather long, setaceous, composed of numerous joints, covered with scales above, hairy beneath (f. 1, three joints magnified).

*Maxillæ* as long as the antennæ, slender (3).

*Labial Palpi* 2, projecting obliquely, like a beak, beyond the head, thickly covered with long and broad scales (4), 3-jointed, 1st joint long robust, slightly curved upward, 2nd rather shorter, somewhat conical, 3rd small, nearly globose (4 a).

*Clypeus* slightly projecting, covered with thick scales. *Abdomen* short, slender. *Wings* entire, extended horizontally when at rest; superior long, somewhat lanceolate, with 2 costal nerves and a rhomboidal cell, of which the 2nd costal nerve forms one side (9); inferior small. *Legs* rather slender: *Tibiæ* of anterior pair very short, with a long, compressed, membranaceous spine, arising on the inside near the centre, 2nd and 3rd pair terminated by 2 spurs, the latter having 2 also near the middle. *Tarsi* 5-jointed, 1st joint in the anterior pair longer than the tibia. *Claws and Pulvilli* minute (8, a fore leg).

*Larvæ* with 10 feet.

LINARIATA *Fab. Ent. Syst. v. 3. pars 2. p. 190. n. 224. Haw. Lep. Brit. p. 364. n. 153.*

Pale ochraceous. Thorax with a black spot in the centre near the posterior margin, 2nd segment of the abdomen blackish, the 1st six segments with a black spot in the middle close to the posterior margin. Superior wings with a costal spot near the base, and a large transverse waved fascia in the centre, bright cinereous variegated and spotted with black, the latter being margined with white, another white sinuated line nearer to the posterior margin, running through 7 irregular cinereous and black spots; an angulated fascia near the base, and another nearer to the posterior margin ferruginous. Inferior wings with several transverse pale cinereous bands, that next the posterior margin being the broadest and having a zigzag pale line running through it. *Cilia* fuscous with obscure dark spots next the base.

*In the Author's and othër Cabinets.*



THIS genus, which comprises Mr. Haworth's section "*Abbreviata*" (with the exception of *Pterapherapteryx hexapterata* and *sexalisata*), contains 38 British species, 27 of which are described in *Lepidoptera Britannica*, and three more by Hubner, viz. *Phalæna abbreviata*, *insignata*, and *exiguata*.

These pretty moths form a most natural genus, and when alive are characterized (as Mr. Haworth has observed) by the elegant attitude in which they repose, with their wings beautifully expanded, lying close to the surface upon which they rest, as moths are displayed for our cabinets by the London collectors. The characters perhaps most deserving our attention are the great length of the basal joint of the anterior tarsus, and the shortness of the tibia, which has an internal flat spine, a character as constant in many Lepidopterous families as the emarginated anterior tibia is amongst the *Carabidæ*: whether this tibial process, which has hitherto been entirely neglected, will prove essential in a natural arrangement of this Order I am at present not competent to decide; and although I have given a drawing of the disposition of the nerves of the superior wings, I suspect, from the observations I have made, that they will rather supply family, than generic characters, which however will be very valuable, as at present those that we have are very minute and uncertain.

During a few days that I spent at Dover in the middle of August 1820, previous to my visiting the opposite coast, I beat a beautiful caterpillar from the *Antirrhinum Linaria*, which grew in abundance, and was in full flower at the time, upon the Castle-hill; it fed upon the blossoms, and began very soon to form its cocoon, which prevented my making a drawing of it: the early part of the following June, to my great satisfaction, the elegant specimen figured in the plate was produced.

Fabricius describes the larva as yellow, with red feet, and spots down the back of the same colour; but I think mine was a beautiful yellow, with dark chesnut spots.

*Antirrhinum Linaria* (Common Toad-flax), from which the moth derives its specific name, is given in the plate.





## HYRIA AURORARIA.

The purple and gold Moth.

ORDER Lepidoptera.

FAM. Phalænidae.

*Type of the Genus, Geometra Auroraria Hüb.*HYRIA *Step.*, *Curt.*—*Fidonia Och.*, *Goda.*—*Geometra Hüb.*, *Haw.*—*Phalæna Fab.*

*Antennæ* inserted on the crown of the head close to the eyes, rather short and setaceous, composed of vertebrae formed joints, each clothed with two series of scales above and short rays, 2 at the apex and 2 at the base, producing long bristles on both sides in the male (1, portions of the base and apex); simple in the female.

*Maxillæ* spiral, not more than half the length of the antennæ and very slender (3).

*Labial palpi* short, slightly curved, but porrected nearly horizontally, clothed with short scales (4), triarticulate, basal joint the longest and stoutest, 2nd much more slender, but nearly as long, 3rd shorter, narrower and obtuse at the apex (4 a).

Head *small subglobose*; eyes *not very globose*. Thorax *with the scales depressed*. Wings *forming a triangle in repose, rounded and obtuse*; cilia *long and irregular*. Abdomen *short linear and tufted at the apex in the males*. Legs, *hinder pair the smallest in the male*: tibiæ, *anterior with a curved spine on the inside, clothed with long scales*; *intermediate armed with one long and another short spur at the apex (8\*)*; *hinder pair destitute of spurs in the male (8†), but spurred at the apex in the female*.

Caterpillars *loopers, with 6 pectoral, 2 abdominal and 2 anal feet?*

Pupæ *inclosed in a cocoon*. Treit.

AURORARIA *Hüb.*—*Curt. Guide, Gen. 921. 1.*—*sanguinaria Hüb. Beit.*—*variegata Fab.*

Orange, head piceous, antennæ and crown whitish; anterior portion of thorax and abdomen, except the apex, rosy purple: wings of the same colour, with an orange margin and a waved blackish line parallel to it near the extremity of the purple, superior wings with an orange spot on the disc uniting with an ovate one below it, which is divided by a faint purple striga near the base; inferior with an oval orange spot on the disc and freckled with the same colour: beneath similar, with the underside of the legs brown.

*In the Author's and other Cabinets.*

THIS charming little moth when quite perfect has the wings of a golden yellow, ornamented with purple inclining to lilac,

but it soon fades, for a few evenings' and mornings' flights are sufficient to wear off and injure the delicate plumage of the wings, and then they become of a dull yellow colour and the purple loses the beautiful bloom with which it was before tinged.

The females are either much less abundant than the males or they conceal themselves, and probably do not fly so often, especially in the day time, when occasionally I have met with this moth in considerable numbers, in marshy meadows, where they rise under the feet in brushing through the long coarse grass. In an excursion to Horning the 24th of last June with Mr. Charles Paget, his Brother and Capt. Chawner, we found them common in one marsh, together with *Erastria uncana* (folio 140<sup>a</sup>), and it has been observed there ten days later; about the same time Mr. Dale was taking it in Holt Forest: it has also appeared in abundance near Croydon in Surrey; in the neighbourhood of Bristol, and in Somersetshire: I have taken it the middle of July near Yaxley in Huntingdonshire, and it has occurred at Trundle, Brick and Ugg-meres from June 22nd to August 7th.

The males of this insect are distinguished by their pilose antennæ, but I do not remember an instance at this moment, in which the hinder pair of legs are the smallest in any other Lepidopterous insect; such however is the case in the males of the genus before us, although it escaped the party who gave it a name: in this sex the middle pair is the longest and furnished as is usually the case with a pair of spurs at the apex (vide fig. 8 \*), whereas the hinder pair is entirely destitute of spurs (fig. 8 †), but in the female there are spurs at the apex which seem to be rather smaller than those of the intermediate tibiæ.

The Caterpillar feeds on the *Plantago major*, but the plant figured, which was in flower at the time the moths were taken, is the *Vaccinium Oxycoccus* (Cranberry).







## VENILIA QUADRIMACULATA.

The Pinion-spotted yellow.

ORDER Lepidoptera.

FAM. Phalaenidæ.

*Type of the Genus, Geometra macularia Linn.*

VENILIA Goda, Curt.—Zerene Treit.—Geometra Linn., Hüb.—Phalaena Haw.

*Antennæ* inserted on the crown of the head, close to the eyes, setaceous, rather short, clothed with scales above and pubescent beneath in the males (1); more slender in the females.

*Maxillæ* slender and spiral, scarcely so long as the antennæ (3).

*Labial palpi* projecting nearly horizontally a little beyond the head, and forming a short beak; clothed with long scales, especially beneath, short at the apex (4); triarticulate, basal joint very long and stout, curved at the base, 2nd not half so long, ovate, truncated obliquely, 3rd small, ovate-conic (4a).

Head *small and round*: eyes *small and globose* (7, the profile). Thorax *small and oval*. Abdomen *rather long and slender, tufted at the apex in the male, with an incurved acute claw above and 2 compressed lobes beneath; conical in the female*. Wings *forming a triangle in repose, superior elongate-trigonal, the apex slightly hooked, the posterior margin a little angulated at the middle; inferior ovate-trigonal, the margin slightly waved*. Legs, *anterior the shortest: tibiæ, anterior very short, intermediate terminated by long spurs as well as the posterior, which have also a pair a little above the apex: tarsi not long, 5-jointed, basal joint the longest*.

Larvæ *loopers, naked, with 6 pectoral, 2 abdominal and 2 anal feet*.

QUADRIMACULATA Haw.—Curt. Guide, Gen. 924. 1.

*In the Cabinets of the Author and the British Museum.*

WHEN the genus *Macaria* was established eleven years since, I considered the insects forming the genus before us were closely allied to it, although they did not exhibit some of the characters belonging to that group. In studying the Lepidoptera previously to the appearance of the "Guide," I found such important variations between the type of *Macaria* and *V. macularia* that I very materially altered its situation; and upon a close examination I find the palpi, antennæ, and hind legs so essentially different from *Macaria* that I have no hesi-

tation in adopting M. Duponchel's generic title given in the 8th vol. of Godart's Lepidoptera.

There are only two species of *Venilia*.

1. *macularia* Linn.—Don. v. 7. pl. 251. f. 3.

Orange with large irregular brown patches on the wings, with smaller ones at the base and abdominal margin; these spots are darkest *above* in the inferior wings and *beneath* in the superior wings.

Mr. Newman once showed me a remarkable variety taken at Walthamstow in May, with the wings almost entirely brown, similar to Godart's figure 6, pl. 187.

The Caterpillar feeds principally upon *Lamium purpureum* and *album*, pl. 70 and 132; the moth is met with in most woods in England: Mr. Dale has observed it in plenty in the Isle of Portland and near Abbey Milton, also at Enborne Copse and Bagley Wood from the 7th of May to the 17th of June.

2. *quadrimaculata* Haw.—Curt. Brit. Ent. pl. 647. ♂.

Ochreous yellow, indistinctly mottled with orange; antennæ, head, and thorax freckled with brown: anterior wings with 3 or 4 large purplish-brown spots on the costa, which is freckled with the same colour at the base; these spots are faint on the underside.

This rare insect used to be taken occasionally in a wood at Colney Hatch in April and the beginning of May, but it has not been seen I believe for several years, and it appears to be unknown upon the Continent. It may possibly be only a variety of *V. macularia*, but if such be the case it is a remarkable instance of stability in a variety, as many specimens have been taken, all agreeing in the essential characters.

*Pyrola minor*, Less Winter-green, was communicated by T. Howson, Esq., who gathered specimens at Clapdale Wood in Yorkshire, and I am indebted to the same gentleman for the plants represented in the two following plates.







## SIONA DEALBATA.

The black-veined Moth.

ORDER Lepidoptera.

FAM. Phalænidaæ.

*Type of the Genus, Phalæna dealbata Linn.*

SIONA Goda, Curt.—Idæa Och.—Phalæna Linn., Haw.

*Antennæ* setaceous, a little the stoutest in the male (1), clothed with scales above, with very short pubescence beneath.*Maxillæ* as long or a little longer than the antennæ, slender and spiral, with minute tentacula at the apex (3).*Labial palpi* short and slender, protracted obliquely beyond the head, the points approximating, clothed with short scales (4), the apical joint distinct; triarticulate, basal joint the longest and stoutest, a little curved at the base, 2nd nearly as long, slightly attenuated, 3rd small and ovate-conic (a).Head *small subglobose*: eyes *lateral large and globose*. Thorax *ovate*.Abdomen *long and slender in the male, stouter in the female, the apex conical with a horny pilose ovipositor*. Wings *subtrigonal and forming a triangle in repose? the margins entire, nervures strong: cilia short*. Legs *long and slender*: thighs *moderate*: tibiæ, *anterior not very short, with a long internal spine, intermediate with a pair of long spurs at the apex, hinder with a shorter pair and a longer and unequal pair a little below the middle*: tarsi *long slender and 5-jointed*: claws and pulvilli *minute* (5†, a hind leg).

Larva and metamorphoses unknown.

DEALBATA Linn.—Curt. Guide, Gen. 926. 1.

Silky white or pale cream colour: palpi, antennæ and eyes blackish: nervures of wings dusky above, quite black beneath, especially in the superior; a narrow transverse stripe beyond the middle on the under side, but very faint in the inferior wings, and the transverse discoidal nervure blackish. Abdomen beneath with 3 blackish longitudinal lines in the female, which sex is the most strongly marked beneath in the wings also.

*In the Author's and other Cabinets.*

THIS simple-coloured but elegant moth is what is termed by collectors an uncommon species, yet occasionally it is found in great plenty, the seasons probably at various periods con-

tributing to its numbers. It generally affects chalky and limestone districts in this country, and makes its appearance the beginning of June.

From the large broods that have been observed of late years in the vicinity of Langport in Somersetshire, it is to be hoped that the caterpillar may be shortly met with, and I am the more sanguine in my expectations from Mr. John Quekett, a most zealous naturalist, residing in the neighbourhood. I am indebted to him, as well as to Mr. Dale and Mr. D. Serrell, for my series of specimens; and this gentleman tells me that he took a considerable number last year in some woods, called the Holts, near Stourton Caundle in Dorsetshire, in the month of July; he principally found them in open places, amongst long grass where stunted black-thorn bushes were growing: these woods stand high, but are exceedingly wet in the winter. Mr. Marshall also informed me some years since, that he once took this moth in abundance in Kent, and it has also been found at Darent and Tonbridge Wells.

I have never met with it alive in England, but I captured a male in descending the Puy de Dome in Auvergne; and Mons. Duponchel says that in France it principally inhabits mountainous districts, but he once took it plentifully in the woods of Notre Dame, four leagues from Paris, by brushing the heath.

The similarity of *S. dealbata* to some butterflies is very striking: indeed the colour and shape of the wings and abdomen assimilate so well with the Papilionidæ, that it seems only to want the capitate antennæ to complete its resemblance to the Pontiæ.

It has been necessary to abandon the name of *Idæa* given to this genus by Ochsenheimer, and employed in the 1st edition of the Guide, as it had been previously applied to a group of Papilionidæ; I have therefore adopted the more recent one of *Siona* proposed by M. Duponchel.

For specimens of the Plant, *Petroselinum* (*Sison* Linn.) *segetum*, Corn Honewort, I am indebted to Dr. Bromfield, who found them last October near Ryde, in the Isle of Wight.





Plate by J. Curran. Vol. 11



## ABRAXAS ULMATA.

The Yorkshire or scarce Magpie Moth.

ORDER Lepidoptera.

FAM. Phalænidae.

*Type of the Genus, Phalæna Grossulariata Linn.*ABRAXAS *Lea., Curt.*—Zerene *Och., Godt.*—Gecometa *Hub.*—Phalæna *Linn., Fab., Haw.**Antennæ* inserted on the crown of the head near to the eyes, rather short and filiform, clothed with scales above, very pubescent beneath (1 *b*).*Labrum* small triangular and membranous.*Mandibles* slender, curved and ciliated internally.*Maxillæ* small spiral not more than half the length of the antennæ (3). *Palpi* minute forming an ovate flat lobe (*a*).*Labial palpi* small, scarcely projecting beyond the head, clothed with short scales (4) triarticulate, basal joint the longest, stoutest, and curved, 2nd slender and linear, 3rd small and ovate (4 *a*).*Head* small transverse and obtuse, clothed with short depressed scales: eyes lateral, large prominent and ovate, (7, the head in profile). *Thorax* rather small. *Abdomen* shorter than the wings, as stout as the thorax, cylindrical. *Wings* ample, either extended horizontally or forming a triangle when at rest, superior trigonate, inferior rounded, cilia short. *Legs* rather short and stout: tibiæ, anterior short with an internal spine, intermediate furnished with a pair of stout short spurs, posterior the longest and thickest, spurred at the apex and a little above: tarsi, anterior the longest, posterior the shortest, the basal joint very long in the 1st pair: claws and pulvilli minute (8 †, hind leg).*Larvæ* loopers with 6 pectoral, 2 abdominal and 2 caudal feet. *Pupæ* attached by threads to leaves, walls, &c.ULMATA *Fab.*—*Curt. Guide, Gen. 927. 2.*Silky-white: antennæ with a transverse ruff of hairs on the underside of each joint in the male (fig. 1): thorax and abdomen yellow, spotted with black, the latter with a dorsal line of black spots, with a double row of smaller ones on each side, and 2 rows of large ones beneath: superior wings with the base brown, having a yellow striga, a large spot of the same colour ornamented with a few silvery ones and yellow on the internal edge close to the posterior angle; a smaller spot of the same colour on the costa towards the apex; a large gray spot on the disc, a waved line of spots of the same colour towards the posterior margin, which is spotted with gray or brown: inferior wings with the base, a spot on the disc, and a curved line beyond it, and sometimes a few spots on the posterior margin gray, with a large brown spot tinged with yellow and gray, and ornamented with a silvery line, above the caudal angle: cilia more or less fuscous. *Obs.* The gray spots vary much in number and size.*In the Author's and other Cabinets.*

The following are the British species I have included in the genus Abraxas:

1. *Pantaria* Linn.—*Hüb. Geo.* 16. 84.—*Goda.* 8. *pl.* 187. *f.* 3.

This, which I suspect is only a fine variety of the following, is said to have been taken in Devonshire: it is very common in the South of France, upon Ash trees, in May.

2. *Ulmata* Fab.—*Curt. B. E.* *pl.* 515.

The Rev. Richard Allen Burney of Rimpton, Dorset, has reared this beautiful moth and favoured me with the following observations:—"The Larvæ vary much, and many older ones resemble the young ones; while some, near their maturity, are almost wholly white, with yellowish extremities, and all the usual marks more or less obscure. They inihume, or take to the earth, about Sept. 2nd or 3rd, (some later,) having fed exactly eight weeks from the egg; and emerge from May 20th to June 14th. In the year 1824 I reared fifty of these larvæ from eggs found in clusters on leaves of young Elms, besides many from captured larvæ and some in the imago state. I never found any except in one particular and very limited spot of the wood. When the moths emerge, they take a station on the *upper* side of any large leaf, of whatever kind, and there rest, beautifully expanded, and very conspicuous, through all the heat of the day. If disturbed, they flutter helplessly to the ground, especially the females, and make no effort to escape. Where they frequent, nothing is so easily found, as they do not hide on the underside, but display their beautiful white wings on the upper surface of any leaf large enough to afford them a convenient situation. I considered their high season of emersion to be from May 20th to the 25th or 30th, though some come out later."

In Yorkshire this Moth is comparatively common. Mr. Dale, I believe, has taken it at Charmouth, the middle of June; and on the 25th of the same month and a few days later I found it at Ambleside. The Caterpillar is believed to feed also upon the Beech and on the Oriental Plane, with which M. Duponchel supposes it was introduced into England.

3. *Grossulariata* Linn.—*Don. v.* 1. *pl.* 4.

This handsome Moth is common in our gardens and hedges the end of July. Its pretty Caterpillars, which resemble the Moth in colour, are very destructive to the leaves of our currant and gooseberry bushes: it will also feed upon the Black-thorn, and some say on the Almond. Its glossy black Pupa is belted with yellow.

4. *marginata* Linn.—*Don.* 9. 293. 2.—*nævaria* Hüb. and *pollutaria* Hüb. *vars.*

Abundant in woods, bushy places and thickets from May to August. The Caterpillar feeds upon the Hazel.

As the legs of this insect agree with those of *Abraxas*, and it seems to associate well with it in other respects, I have added it to the genus before us.

A branch of the Common Elm (*Ulmus campestris*?) in flower, is represented in the Plate.





## ZERENE PLUMBATA.

The Kinnordy bordered Carpet.

ORDER Lepidoptera.

FAM. Phalænidæ.

*Type of the Genus, Phalæna rubiginata Fab.*

ZERENE Och., Curt.—*Melanthia Goda.*—Harpalyce, Melanippe, Xerene Step.—*Phalæna Fab., Haw.*—*Geometra Linn., Hüb.*

*Antennæ* short, inserted close to the eyes on the crown of the head, clothed with scales above and hairy beneath in the males (1).

*Maxillæ* shorter than the antennæ, slender, spiral and furnished with small tentacula at the apex (3).

*Labial palpi* rather elongated, porrected horizontally and forming a pointed beak, densely clothed with scales appearing trigonate in profile (4), triarticulate, basal joint somewhat kidney-shaped, 2nd twice as long elliptical, 3rd very minute and ovate (4 a).

Head small, subglobose: eyes small and globose. Thorax globose.

Abdomen long slender, tufted at the apex in the males, conical in the females. Wings forming a triangle in repose. Legs moderate: tibiæ, anterior the shortest, intermediate spurred at the apex, hinder pair the longest, with spurs at the apex and a pair considerably below the middle: tarsi long, 5-jointed, basal joint long, 5th the shortest (8 †, a hind leg).

Larvæ loopers, with 6 pectoral, 2 abdominal and 2 anal feet.

PLUMBATA Curt. *Guide, Gen.* 928. 6.

White; head and thorax brown and grey; superior wings inclining to cream-colour with a patch at the base and a fascia across the middle generally broadest at the costa, brown variegated with grey and darker brown lines, the margins are sinuated and there is a black dot on the disc; posterior margin lead-colour with a pale crenated striga and a long patch at the tip much darker: inferior wings with a similar fimbria and striga, a curved fuscous line across the middle, with a black dot towards the base: the abdomen is spotted with brown down the sides, sometimes with 2 or more spots on the back of the apical joints. *Obs.* The males frequently have the upper wings of a dark lead-colour with the usual brown markings, the under wings having a broad plain fimbria of the same colour: in the females the fascia is generally broad throughout, but it is sometimes divided towards the inferior margin in the males.

*In the Author's and other Cabinets.*

THIS pretty genus, containing many species, is distinguished by its white wings simply banded or bordered with brown or some dark colour. Treitschke has included in it a species of



*Zerynthia* and the genus *Abraxas*, the former characterized by the pectinated antennæ of the males, and the latter by its ample wings with irregular spots, sometimes ornamented with yellow.

The following species appear to belong to this group.

1. albicillata *Linn.*—*Don.* 6. 202. 1.

June, paths in woods, Cumberland, Norfolk, Kent, and Knaresborough, Yorkshire, J. C.

2. adustata *Hüb.*—*Wood*, fig. 605.

3. hastata *Linn.*—*Don.* 4. 129. 1. 2. & 3.

June, base of Ben More and Ben Cruchan, Miss Harvey.

4. procellata *Hüb.*—porcellata *Don.* 6. 202. 3.

End of July, Birch Wood, J. C.; and Essex and Oxfordshire.

5. rubiginata *Hüb.*—*Wood*, 606.—contaminata *Ber.*—trigonata *Haw.*

June and August, gardens and pathways in woods.

6. plumbata *Curt. Brit. Ent. pl.* 643.

For a fine series of this new moth I am indebted to Charles Lyell, Esq.: a considerable number were taken the beginning of September in Forfarshire. Variable as this species is it may readily be distinguished from the foregoing by the *perfect* fascia of the upper wings.

7. ocellata *Linn.*—lynceata *Don.* 10. 349. 3.

8. tristata *Linn.*—*Wood*, fig. 566.

Middle of June, Yorkshire, side of a hill Ambleside, J. C. Dale, Esq.

9. subtristata *Haw.*—contristata *Don.* 15. 510. 2.—alchemillata *Hüb.* 71. 370.—amniculata *Hüb.* 75. 386.—substriata *Wood*, 567.—degenerata *Haw. var.*

10. sylvaticata *Haw.*—*Wood*, 568.—rivata *Hüb.* 79. 409. not *G. aquata*.

11. unangulata *Haw.*—*Wood*, 569.

12. biangulata *Haw.*—*Wood*, 570.—picata *Hüb.* 84. 435.

June, pathways in and outside of woods, Norfolk, J. C.

13. Galiata *Hüb.*—*Wood*, 563. May and June, rocks, Isle of Portland, and August, Isle of Wight and Dover, J. C.; Lulworth Cove, Mr. Dale.

14. unilobata *Haw. p.* 331. 44.—*Wood*, 564.

Taken near Scarborough and other parts of Yorkshire.

15. 4-annulata *Haw.* 331. 45.—*Wood*, 565.

Taken at Wisbeach and in Devonshire.

*Rubus Chamæmorus*, Cloud-berry, represented in the Plate, was communicated by Mr. T. Howson.





## ELECTRA ALBOCRENATA.

## The Durham Carpet.

ORDER Lepidoptera.

FAM. Phalænidæ.

*Type of the Genus, Gcometra ruptata Hüb.*

ELECTRA Curt. — Zerene Curt. — Elcetra, Harpalyce, Polyphasia, Steganolophia and Lampropteryx Ste.—Cidaria Och., Goda.

*Antennæ* inserted close to the eyes on the crown of the head, alike in both sexes, rather short slender and setaceous, composed of numerous short joints, clothed with small scales above, densely pilose beneath (1).*Maxillæ* not so long as the antennæ, very spiral and tentaculated at the apex (3).*Labial Palpi* porrected beyond the head nearly horizontally, clothed with short scales and appearing truncated obliquely (4); triarticulate, basal joint curved and narrowed at the base, 2nd nearly twice as long and linear, 3rd very short and ovate (4 a).Head *subglobose*: eyes *globose*. Thorax *ovate*. Abdomen *slender*, more or less tufted in the males, conical at the apex in the females.

Wings forming a triangle in repose; superior elongate-trigonal, inferior rather narrow, subovate. Tibiæ, anterior short, the others spurred at the apex, the hinder having a pair above the apex (8 †): tarsi long and 5-jointed.

Larvæ loopers, smooth and like a stick, with 6 pectoral, 2 abdominal and 2 anal feet.

ALBOCRENATA Curt. Guide, Gen. 929.

Silky, greyish-white: palpi, head and anterior portion of thorax brown, back of abdomen variegated with the same colour; superior wings freckled with black, the base brown; a brownish somewhat ear-shaped figure on the disc containing a long black spot, with a narrow irregular fascia between it and the base; posterior margin with a dark brown fimbria, the internal margin sinuated, with a large whitish spot at the centre and a trigonal one at the apex, beneath which is a white dot and 7 crescents along the margin, with a strongly crenated white striga down the middle of the fimbria; inferior wings with a dusky spot towards the base, and a pale fuscous fimbria with an ochreous tint.

*In the Cabinets of Mr. Wailes and the Author.*

THE following insects may be formed into sections from the colouring of the wings, but I doubt if there be any constant essential characters to separate them. I have only a very bad specimen of *E. piceata*, but it seems to be as nearly allied to *E. perfuscata* as to *E. suffumata*, and the insect here figured evidently connects *E. ruptata* and *E. commanotata*. The following are the species as they stand in the Guide.

1. *ruptata* Hüb.—Wood, fig. 572.—Don. 14. 479. 2.—*Corylata* Thunb.?

I have a remarkable variety that I took in Scotland, making an approach to the following.

2. *albocrenata* Curt. B. E. pl. 603 ♀, scarcely larger than life.

This is another of the fine species discovered by Mr. Wailes, who took it, I believe, at Castle Eden Dean.

3. *piceata* Ste.—Wood, 583. Taken in Northumberland and Yorkshire.
4. *suffumata* Hüb.—Wood, 582.
5. *silaceata* Hüb.—Wood, 571.—*insulata* Harw. var.—*cuneata* Don. 14. 487. 2.
6. *Prunata* Linn.—Wood, 581.—Don. 7. 233. 1.
7. *commanotata* Harw. 325. 26.—Wood, 577.
8. *perfusca* Harw.—Wood, 580. & 579.—*saturata* Ste. vars.
9. *centumnotata* Fab.—Wood, 578.—*russata* Hüb. pl. 59. f. 305. & 86. 445. var.
10. *marmorata* Fab.—Wood, 574. & 575.—*amænata* Ste. var.—*omicronata* Don. 15. 510. 1. var.
11. *immanata* Harw. 323. 22.—Wood, 573.
12. *boreata* Curt.—*concinata* Ste.?—Wood, 576.

Allied to *E. immanata*; but the superior wings are more marbled; the narrow ferruginous fascia at the base is obscure and not angulated, terminating in a white horse-shoe on the inner margin; the broad central fascia is not solid, but grey in the middle, and the posterior margin is darker than in *E. immanata*.

I first discovered this beautiful species the 7th of August 1825, on rocks near Arrachar in Scotland, in company with Mr. Dale, and I have never found it elsewhere.

13. *comitata* Linn.—Wood, 587.—*Chenopodiata* Hüb.
14. *Populata* Linn.—Wood, 590.
15. *testata* Linn.—Wood, 592 ♂. 593 ♀.—*achatina* Hüb. 58. 301 ♂. 79. 408 ♀.
16. *Spinachiata* Harw.—Wood, 591.—*marmorata* Hüb.
17. *Pyraliata* Hüb.—Wood, 594.—*populata* Harw.
18. *fulvata* Hüb.—Wood, 561.—*sociata* Fab.

The beautiful Plant figured, *Pinguicula grandiflora* (Large-flowered Butterwort), is abundant, as well as the other 2 species, at the base of the mountains around the lakes of Killarney, but in July I could find only one specimen *in flower* on the western side of Mangerton near the base. Miss Jennings of Cork informed me she had obtained the *P. grandiflora* with white flowers.







Publ. by J. C. Curtis. p. 1. 10.

## LARISSA IMBUTATA.

The dyed treble-bar Moth.

ORDER Lepidoptera. FAM. Phalænidae *Lat., Leach.**Type of the Genus, Phalæna plagiata Linn.*LARISSA *Nob.*—Aspitates & Larentia *Treit.*—Anaëtis *Goda.*—Phalæna *Liun., Haw., &c.**Antennæ* inserted on the crown of the head close to the eyes, slender, and setaceous in both sexes, basal joint scarcely larger than the following, which are clothed with scales above and pubescent beneath (1).*Maxillæ* as long as the antennæ, very spiral and furnished with a few tentacula at the apex (3).*Labial Palpi* porrected a little obliquely, extending beyond the head, compressed, rather obtuse, clothed with short and broad scales, the terminal joint a little apparent (4): triarticulate, basal joint curved, rather longer and stouter than the 2nd; which is straight and slightly attenuated, 3rd joint small and conical (4 a).

Head small and globose. Eyes globular (7 a). Abdomen rather short and slender, obtuse in the males, conical at the apex in the females. Wings forming a triangle when at rest, entire, superior ample and lanceolate, inferior rather narrow. Legs long and slender. Coxæ; anterior very long. Thighs; middle pair rather the longest. Tibiæ; anterior exceedingly short, with an internal spine, the others long and spurred, the hinder pair with spurs below the middle. Tarsi 5-jointed, basal joint very long, penultimate as long as the terminal one. Claws and Pulvilli distinct (8, a fore leg).

Larvæ loopers, with 6 pectoral, 2 abdominal and 2 anal feet?

IMBUTATA *Hüb. Geom. pl. 78. f. 403.*

Pale bright grey. Superior wings with 2 oblique brown waved bands, forming a bar across the middle, generally meeting about the centre, the outer one being very much indented externally; near the base is a brown striga and a pale wave; near the apex upon the costa, a brown spot, and from the apex arises a waved band extending to the posterior angle, and forming a double arch; from the posterior margin, which is dotted with black, arises a fine rosy blush. Body and inferior wings cinereous, the latter with an obscure dot towards the base, and an undulated pale wave across the middle. Cilia spotted brown and white, particularly of the superior wings.

*In the Author's and other Cabinets.*

TREITSCHKE has formed a large and incongruous genus, which he has called *Larentia*,—a name I shall reserve for his type (*Geom. cervinata* Hüb., the *G. clavaria* of Haw.) and its congeners. The typical species of our genus is the fourth of Treitschke's *Larentiæ*; but he neither notices the *Geom. præformata* nor the *G. imbutata* of Hüb. that I can find: and *G. casiata* and *G. flavicinctata* of Hüb. are more nearly allied to *G. Alchemillata* Linn.

I should have adopted Mons. Dupouchel's name, but I am uncertain what species he intends to include in his genus *Anaitis*.

*Larissa* comprises the following British insects.

1. *L. plagiata* Linn.—Haw. 318. 8.—*duplicata* Fab.—Don. 7. 233. 2.

This handsome moth is not uncommon amongst Fern, especially in chalky districts. The beginning of June and September I have found it in Norfolk; at Coombe Wood, Surrey; and Linton, North Devon: and Mr. Dale observed it the end of June in Scotland. The Caterpillar feeds upon *Hypericum perforatum*.

2. *L. præformata* Hüb. *Geom. pl.* 103. *f.* 532, 533.

The only specimen I have seen of this fine moth I believe I captured by Coombe Wood. It may be distinguished from the foregoing species by its larger and less acute wings, and by their richer colour: and the waved bar near the base, and that arising at the apex, are almost as strong as the two central ones; so that it is 5-barred.

3. *L. imbutata* Hüb.—Curtis *Brit. Ent. pl.* 324.

Mr. Dale had the good fortune first to discover this beautiful moth amongst some heath, as we were walking from Inversnaid to Loch Katrine, the 8th of August, 1825: it has since been taken by Mr. R. Wood near Manchester, to whom I am indebted for some lovely specimens.

4. *L. petrata* Haw. 344. 84.—Hüb. *Geom.* 21. 113.—*virgaria* Borkh.

This species perhaps will associate better with *Geom. lignata* and *lineolata* Hüb. It is found the end of May and beginning of June in great abundance amongst Fern.

The plant is *Campanula rotundifolia* (Round-leaved Bellflower).







## PHIBALAPTERYX VIRGATA.

The oblique-Carpet likeness.

ORDER Lepidoptera. FAM. Phalænidae.

*Type of the Genus Geometra lineolata Hüb.*PHIBALAPTERYX *Step.*—*Lozogramma Curt.*—*Aspilates* and *Aeidalia Och.*—*Larentia Goda.*—*Geometra Hüb.*—*Phalæna Haw.**Antennæ* short, setaceous, inserted on the crown of the head, composed of numerous subovate joints, scaly above and densely ciliated beneath in the males (1).*Maxillæ* spiral, slender, about half the length of the antennæ (3).*Labial palpi* very short, porrected a little obliquely, clothed with rather short scales and somewhat obtuse clavate (4); triarticulate, 1st and 2nd joints elongated, stout, the former curved narrowed at the base, 2nd subelliptic, 3rd small, ovate-conic (4 a).*Head* rather small: eyes large and globose. *Thorax* clothed with depressed scales. *Abdomen* short, slender, clavate and tufted in the males, rather stouter but obtuse in the females. *Wings* forming a triangle in repose in some, in others extended; superior subtrigonal, the apex more or less acute; inferior small, trigonal-ovate. *Coxæ*, anterior very long: *tibiæ*, anterior very short, with a spine on the inside, the others simple, spurred at the apex, hinder pair the longest and spurred also above the apex (8 †): *tarsi* long and 5-jointed, basal joint very long, the remainder decreasing in length: *claws* and *pulvilli* minute.*Larvæ* smooth and linear, with 6 pectoral, 2 abdominal, and 2 anal feet. *Hüb.*VIRGATA *Curt.*—*Guide, Gen.* 933, 4.*In the Author's Cabinet.*

THERE is so great a difference in the habits of the following insects that they ought to form two genera: the first rests with its wings placed triangularly, and in the two last species at least, they are extended horizontally, although stated to the contrary in the "Illustrations:" in which way the other four species repose I am not able to determine.

\* Posterior *tibiæ* a little thickened. *LOZGRAMMA Step.*1. *petraria Hüb.*—*Wood, pl.* 22. *f.* 617.*Ochreous*, shining; superior wings with 2 oblique strigæ having a dot between them, the 2nd dark brown on the inside, with an indistinct striga beyond it: inferior wings with a suffused brown streak at the anal angle: 16 lines in expanse.

End of May, June, and beginning of August, amongst Fern, everywhere.

\*\* Posterior *tibiæ* not thickened. *PHIBALAPTERYX Step.*2. *angustata Haw.*—*Wood, f.* 616.*Wings* dusky gray, with an oblique narrow fuscous fascia in the middle, having a black dot with a white iris: 11 lines.

End of September in a garden at Camden Town, on the authority of the "Illustrations".

3. *lineolata* Wien. Verz.—Wood, f. 615.

Cinereous, superior wings with the base dark, a brown fascia inclosing a black dot and 2 strigæ often uniting under it; 3 pale strigæ towards the posterior margin, with a brown streak at the apex; inferior wings with 3 or more pale strigæ: 10 lines. It varies much in colour; the female is sometimes very dark.

From the middle of May to the middle of August, Denes, Yarmouth, Norfolk, Mr. C. J. Paget; Covehithe, Suffolk; Devil's Ditch, Newmarket Heath; Lewes, Brighton, and Devon. The larva feeds on *Galium verum* (pl. 317).

4. *virgata* Curt. Brit. Ent. pl. 623. ♀.

Ash-colour, freckled with brown; superior wings acute, with 6 oblique pale strigæ on each, the 2nd and 5th forming a fascia, brown on the inside, inclosing the 3rd and 4th strigæ, the former terminating in a black dot on the disc, 5th and 6th strigæ united, at the apex is an oblique black streak: inferior wings pale at the base, with a pale double band across the middle, and 2 or 3 beyond it; margins of wings with a broken dark-brown streak; cilia pale, darker at the base; underside reddish brown: 10 lines.

This may be only a variety of No. 3, but both my specimens, which were taken in Norfolk, differ from it in having the fascia broader and nearly of equal breadth, the 3rd striga is *terminated* by the spot, and the 4th and 5th are *incurved* at the costa, not straight.

5. *lignata* Hüb.—*lineataria* Don. v. 14. pl. 485. f. 1. 2.

Antennæ very pilose: pale ochreous: wings with many brown lines, superior with a narrow brown fascia, and a stripe of the same from the apex to the inner margin: 12 lines.

Middle of August, marshy places, Cambridge, Battersea Fields, New Forest, and Langport.

6. *polygrammata* Hüb. Geom. pl. 54. f. 277.—*cognata* Step.

Dull ochreous; wings with numerous dark and pale lines; superior with a dark streak to the discoidal dot, and another oblique one beyond it, forming a fascia; posterior margin brown, with a pale streak at the apex; inferior with 3 or 4 straight bands, a crenated dark line and a pale one: 13 lines.

My specimen came, I believe, from Cambridgeshire, and I think I once took it at Horning in Norfolk.

7. *vitalbata* Hüb.—Wood, f. 613.

Fulvous with numerous darker and lighter lines; a broad brown streak passing obliquely from the apex of the upper wings across them and through the inferior: 17 lines.

End of May, June, hedges, Birch and Darent Woods, and also with No. 8, in chalky districts, where *Clematis vitalba* abounds.

8. *tersata* Hüb. ♂.—Wood, f. 612.—*Æmulata* Hüb. ♀.

Brownish fulvous with numerous dark lines dotting the nervures, and paler ones, especially on the inferior; superior with an oblique brown patch beyond the middle, and an outlined fascia and a dark streak before the middle, extending across the base of the inferior wings and the abdomen: 16 lines.

The larva feeds on *Clematis vitalba* (pl. 342) in September and October.

*Potentilla verna* (Spring Cinquefoil) was communicated by Mr. T. Howson, from Giggleswick, Yorkshire.







## MELANIPPE BLOMERI.

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ORDER Lepidoptera. FAM. Phalænidae.

*Type of the Genus, Phalæna Alchemillata Linn.*

MELANIPPE Goda, Curt.—Emmelesia Ste., Curt.—Larentia & Acidalia Treit. and Goda.—Cidaria Treit.—Gecomtra Hüb.

*Antennæ* inserted on each side the crown of the head, close to the eyes, short and setaceous, composed of numerous joints, clothed with scales above and ciliated beneath, especially in the males (1 ♂).

*Maxillæ* spiral and slender, shorter than the antennæ (3).

*Labial Palpi* small, not visible from above, porrected horizontally, sparingly clothed with short scales, the apex acute (4); triarticulate, basal joint the longest and stoutest, curved at the base, 2nd oblong, not much longer than the 3rd which is oval (4 a).

Head small, the scales on the face very close. Eyes globose. Wings expanded when at rest, entire, superior trigonate, inferior rather narrow and rounded. Abdomen short, slightly tufted in both sexes. Legs alike in the sexes. Thighs slender, posterior a little the longest. Tibiæ, anterior short with a long spine on the inside, intermediate spurred at the apex, posterior with a pair of unequal spurs at the apex and another pair just above them (8 †). Tarsi 5-jointed, anterior a little the longest. Pulvilli and Claws minute.

Larvæ loopers, dilated in the middle, with 6 pectoral, 2 abdominal, and 2 anal feet. Hüb.

Obs. the dissections and description are taken from *M. sylvata* Hüb.

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BLOMERI Dale's MSS.—Curtis's Guide, Gen. 937.

Pale gray, freckled with minute black scales; underside of antennæ subochreous: eyes black, face dark brown: superior wings with a black striga and a faint fulvous one at the base, and a short longitudinal dotted line; a double blackish spot on the costa before the middle, a broken striga beyond it, extending to the posterior angle where it is double, the whole of the tip fulvous, with a waved striga across the middle, the internal margin edged with black, the posterior margin gray with an obscure crenated black striga the whole breadth of the wing, the edge of the posterior margin having a chain of 8 black dots; cilia dirty ochre: inferior wings with an ochreous tint bearing several transverse suffused fuscous bands, darkest at the abdominal margin, a broad double one across the middle and another parallel and near to the external margin which also bears a chain of blackish spots.

*In the Cabinets of Mr. Wailes, Captain Blomer, and the Author.*

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AFTER a careful investigation of this group I find a character hitherto unnoticed, which will enable me to form 2 divisions. The species figured is undoubtedly allied to *M. sylvata*, both

being distinguished by a dark brown face, and the structure of the legs is perfectly alike.

\* Posterior tibiæ with two pair of spurs.

1. *M. ericetata* Curt.—*Ste. pl.* 32. *f.* 2.—Obs. the numbers in his Plate are transposed.

Discovered by Mr. Dale and myself, the middle of July 1825, amongst heath near the base of Schehallion; taken since in Cumberland in June.

6. *M. albulata* F.—*Hüb. Geo. pl.* 50. *f.* 257.—Beginning of June, beginning of August. Pastures round London, in Cumberland, Hants, &c.
7. *M. rivulata* Hüb. 50. 259.—*nassata* Fab.—End of June. Copenhagen Fields, Norfolk, and Ambleside.
8. *M. Alchemillata* L.?—Not the *Alchemillata* of Hübner as stated by Mr. Stephens, which is probably *P. subtristata*. I think it is only a suffused variety of the following.
- 8<sup>a</sup>. *M. turbata* Hüb. 49. 255.—Rare.
12. *M. decolorata* Hüb. 47. 243.—The whole of June, pathways in woods round London, in Hants, Northumberland, &c.
13. *M. luteata* F.—*centrata* F.—*flavostrigata* Don. 11. 386. 1. & 2.—End of May, end of June; open places in woods, Darent, Dover, Newcastle, &c.
14. *M. candidata* Hüb. 19. 101.—*immutata* F.—*candidulata* Haw.—End of May; open places, Coomb Wood, J. C.—Northumberland, &c.
15. *M. sylvata* Hüb. 44. 231.—*testacea* Don. 14. 487. 1.—End of May; chalky places and woods, Kent, and Coomb Wood.
- 15<sup>a</sup>. *M. Blomeri* Curt. *Brit. Ent. pl.* 416.—Mr. Dale informs me that Captain Blomer bred a specimen of this nondescript in the autumn of 1830. For my specimen I am indebted to my friend Mr. Wailes, who took several “the 4th and 5th July at Castle Eden Dene, Durham, amongst Birch and Alders by the side of the beck that runs through a dene formed in magnesian limestone.”
9. *M. bifasciata* Haw. 334. 56.—Birch wood; end of August; hedges, Dover, J. C.—Cambridge, and end of June, Scotland.
- 9<sup>a</sup>. *M. tæniata* Ste. *pl.* 32. *f.* 3.—July, Cumberland.
10. *M. unifasciata* Haw. 335. 57.—Not the *G. Salicata* Hüb., which is a *Zerynthia*. Beginning of August, open places in woods, Westerham, Kent.

\*\* Posterior tibiæ with one pair of spurs only.

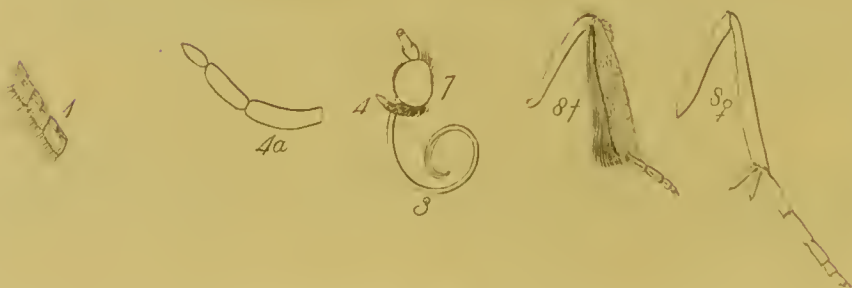
2. *M. Monticola* Curt. *Guide*.

The only specimen I have seen, I took the 4th August 1825, on a hill near Oban, Argyleshire.

3. *M. blandiata* Hüb. 50. 258.—June? near Callendar, Perthshire, Mr. Walker.
4. *M. rusticata* F.—*Hüb.* 46. 241.—June, thick woods and paling, Coombe and Kent.
5. *M. trigonata* Haw. 338. 68.—Beginning of August, Westerham, Kent, and June, Cumberland. I am not certain that this belongs to our genus.

*Cypripedium Calceolus* (European Ladies' Slipper). This beautiful specimen was communicated by Mrs. Murchison, who informed me that the plant was found wild at Castle Eden Dene, and transplanted into a garden at Petersfield, Hants.







## ACIDALIA DEGENERARIA.

The Portland ribbon Wave.

ORDER Lepidoptera. FAM. Phalænidæ.

*Type of the Genus, Phalæna aversata Linn.*

ACIDALIA Treit.—Dosithea Dup.—Ptychopoda Steph., Curt. Guide Gen. 938.—Phalæna Linn.

*Antennæ* inserted on each side the crown of the head, rather short, setaceous, composed of numerous joints, clothed with scales above, hairy or ciliated beneath, especially in the males (1).*Maxillæ* spiral, slender, nearly as long as the antennæ (3).*Labial Palpi* small, porrected horizontally, sparingly clothed with short scales (4); triarticulate, basal joint curved, the longest, 3rd the shortest ovate-conic (4 a).*Head* transverse, the scales on the face not projecting beyond the large globose Eyes (7). *Wings* extended horizontally when at rest, superior elongate trigonate, inferior rounded, the margin entire. *Coxæ*, anterior long. *Thighs* slender, posterior very short. *Tibiæ*, anterior short, with an internal spine, intermediate spurred at the apex, posterior hollow in the male, inclosing a long brush of hairy scales on the inside, which are sometimes expanded like a fan (8†); terminated by a pair of spurs in the female (8♀). *Tarsi* 5-jointed, anterior very long, posterior very short in the male. *Claws and Pulvilli* concealed beneath the projecting scales.*Larvæ* loopers, without tubercles, with 6 pectoral, 2 abdominal and 2 anal feet.DEGENERARIA Hüb. *Geom. pl.* 11. f. 57. mas.—Dup. v. 8. pl. 175. 4. var.*Female* pale fuscous ochre; face dull chestnut, crown of head whitish: superior wings with the costa red, a reddish brown fascia a little before the middle, with a black dot towards the costa, the edges waved, between it and the posterior margin are 2 parallel sinuated fuscous strigæ, the inner one angulated and divaricating at the costa; and at the base of the cilia is a fuscous line: inferior wings with the reddish brown fascia continued across them and occupying the base, beyond it and near the centre is a black dot, the two waved strigæ are also continued round these wings but are further apart and there is a third one scarcely visible, cilia the same as in the other wings.*In the Cabinet of the Author.*

IN my Guide I adopted Mr. Stephens's name for this genus; and supposing that he had studied the group I followed his arrangement of the species, leaving out his division C, which evidently had nothing to do with the others; he has subsequently divided these 21 species into two genera not formed of his own divisions but of species from both, transferring *sub-roseata* to Timandra, and taking the hint from me has cast off



the 4 last species, of which he has made two more genera, so that the genus in his Catalogue is now distributed through five genera.

As Treitschke first called the group *Acidalia*, and I am not disposed to divide it into several genera, I must abandon the name *Ptychopoda* employed in my Guide; and finding Mr. Stephens's last arrangement the most correct, I shall follow it here, making such additions and corrections as may be necessary.

1. *A. dilutata* Haw.—*dilutaria* Hüb. 19. 100?—*reversaria* Treit., Dup. pl. 173. 3. July and August, skirts of woods and hedges, common.
- A. fimbriolata* and *A. cinereata* Ste. are probably varietics: the *G. decoraria* Hüb. referred to in Mr. Stephens's Catalogue, does not even belong to this division, and I have never heard of its being taken in England.
2. *A. lividata* Linn.—*scutularia* Hüb. 14. 72. Beginning of June and July, hedges.
3. *A. bisetata* Treit., Dup. 173. 4.—*trigeminata* Haw.—*scutularia* Hüb. 14. 73. End of May and June, hedges and chalky places, Darent.
4. *A. ornataria* Hüb. 14. 70.—Dup. 173. 1.—*paludata* Sam. June and July, chalky places, Darent, &c.
5. *A. contiguaria* Hüb. 20. 105.—b. July, Wrentham, Suffolk. June, walls, Norwich.—m. August, Dover, grassy places.
6. *A. incanata* Linn.—*immutaria* Hüb. 20. 108.—Roesel, v. 1. Class iii. tab. 11. End of August, on Colt's-foot at Barton Cliff, Hants; Beginning of September, on stones, Isle of Wight.
7. *A. immutata* Linn.—*sylvestraria* Hüb. 18. 97.—*punctaria* Dup. 177. 3? July, marshy places, Norfolk and Whittlesea-mere.
8. *A. rubricaria*? Hüb. 21. 111. & 94. 487. Mr. J. Standish took one the beginning of August flying in the day in the North Foreland Meadow, Dover. I doubt if it belong to this genus.
9. *A. ossearia* Hüb. 19. 102.—*subochreata* Ste. var. End of June, hedges and woods, Darent, &c.
10. *A. marginepunctata* Ste. Taken in the New Forest by J. C. Dale, Esq.
11. *A. virgularia* Hüb. 19. 104. var.—b. July, hedges, common.
12. *A. subsericeata* Haw. July, open places in Darent Wood.
13. *A. inornata* Haw. Taken with the last.
14. *A. aversata* Linn., Hüb. 11. 56. The other figure referred to by Mr. Stephens is an *Eupithecia*!—m. July; b. September, common in shady groves.
15. *A. remutata* Linn. Found with the last.
16. *A. degeneraria* Hüb.—Curt. B. E. pl. 384. fem. The only specimen I have seen of this rare moth I found on a block of stone at the back of the Isle of Portland the 24th of last June in company with my friend Mr. Dale.
17. *A. fuliginata* Haw. June, near London.
18. *A. fumata* Curt. was taken on heaths near Schehallion and in the Black Wood, Loch Rannoch the 12th and 14th July 1825, by Mr. Dale and myself, and was one of the 23 species of *Lepidoptera* that were first discovered by us in Scotland in the course of a few weeks.
19. *A. lactata* Haw.—*sublactata* Haw. var. End of May, shady groves, common. The *G. sericeata* of Hüb. referred to by Mr. Stephens is not a British insect.
20. *A. floslactata* Haw.—*remutaria* Hüb. 18. 98. End of May; b. June, shady groves.
21. *A. pallidaria* Hüb. 18. 96. The only British specimen I have seen of this, I received from Kent. It is totally different to my *A. fumata*, to which Mr. Stephens has referred it.

The Plant is *Rubus cæsius* (Dew-berry). The fruit has been represented in Plate 356.





*Drawn by J. C. Curtis. London Sept. 4. 1826*

## MACARIA LITURATA.

## The Tawny-barred Angle.

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ORDER Lepidoptera.      FAM. Phalænidae *Lat., Leach.*

*Type of the Genus Phalæna liturata Linn.*

MACARIA *Nob.*—Phalæna *Linn., Fab., Haw.*—Geometra *Hüb.*

*Antennæ* inserted between the eyes, near to the back of the head, setaceous, long and slender in both sexes, composed of numerous elongated joints, each being covered above with 2 series of scales, pilose beneath (fig. 1 a, represents 2 joints of the female); in the males they are produced on the internal side, which gives them a serrated appearance (1).

*Maxillæ* not so long as the antennæ (3).

*Labial palpi* 2, projecting very little beyond the head, obtuse, covered with scales (4.4), 3-jointed, basal joint the longest, slightly curved, 2nd large elongate-ovate, 3rd small subovate (4a).

Head *small*. Eyes *globose* (7). Abdomen *rather short, linear in the males, somewhat conical in the females*. Wings *entire, extended horizontally when at rest; superior slightly falcate, sometimes with the posterior margin indented near the apex; inferior angulated*. Thighs *covered with short scales*. Tibiæ; *anterior scarcely longer than the basal joint of the tarsus, having a small spine on the internal side; middle pair terminated by spurs; posterior more robust in the males than females, with 2 pair of spurs, a suture down the inside, from which can be exerted a long fascicle of hair which does not extend beyond the apex*. Tarsi *5-jointed, posterior short in the male*.

Claws *distinct, acute*. Pulvilli *small* (8 † hind leg of male).

Larvæ *loopers, with 6 pectoral, 2 abdominal and 2 anal feet*.

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LITURATA *Linn. Faun. Suec. 1273.—Haw. Lep. Brit. p. 346. n. 92.*

Lilac with a rosy tinge, minutely spotted with black. Head, anterior margin of thorax and an obscure fascia on the superior wings, near the posterior margin ochraceous; 3 transverse lines upon the same, the 2nd and 3rd of which are continued across the inferior, fuscous irregularly spotted with black; apex cinereous with a lunar ferruginous spot: inferior wings with a fimbria of lilac colour. Abdomen ochraceous at the margins, with a double row of black spots down the back. Beneath orange spotted with brown; superior wings whitish at the tips, inferior with a fimbria of the same colour.

*In the Cabinets of Mr. Dale, Mr. Stephens, and the Author.*

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It has often occurred to me that the *Phalænida* might with great propriety be divided into 2 families, one having the antennæ of the males pectinated, the other with the antennæ simple; the former might be denominated *Geometridæ*, the latter remain as *Phalænida*. Of those with pectinated antennæ we have already described the genus *Alcis*; and the present group, which we propose calling *Macaria*, appears to form a parallel to that genus in the division with simple antennæ. Mr. Stephens has formed an admirable genus in his cabinet, which he calls *Ptychopoda*, making *Phalæna dilutata* Haw. the type, including *P. immutata* and *aversata* Linn. and their congeners. *Macaria* will follow those, and contains—

- 1 *M. emarginata* Fab.—*rumigerata* Don. 14. 493. 2.
- 2     *imitata nob.*—*imitaria* Hüb., Haw.
- 3     *dimidiata* Haw.—*4-punctata* Don. 14. 493. 3?
- 4     *prænotata* Haw.—*liturata* Hüb.
- 5     *notata* Linn.
- 6     *præatomata* Haw.
- 7     *liturata* Linn.—*alternaria*, *lituraria* Hüb.

The following species are closely allied, although they want some of the characters.

- 8 *M. heparata* Hüb., Haw.
- 9     *Thymiata nob.*—*Thymiaria* Linn.—*vernaria* Don.  
      *Br. Ins.* 9. 310.
- 10    *clathrata* Linn.
- 11    *maculata* Fab.—*macularia* Linn., Don. 7. 251. 3.
- 12    *4-maculata* Haw., *Ent. Trans.* tab. 6. f. 2.
- 13    *bimaculata* Fab.—*Taminaria* Hüb.
- 14    *punctata* Fab.—*nubeculata* Haw.—*Temeraria* Hüb.

*Macaria liturata* lives in the deepest recesses of fir plantations where the sun can scarcely penetrate, resting in the day upon the trunks of the trees. It was first recorded as a British insect by Mr. Haworth in his *Lep. Brit.*, who at that time had seen but one specimen: Mr. Dale has since taken it in plenty in a large and thick grove of Scotch firs at St. Leonards or Barnfield near Ringwood, Hampshire, 24th July 1824; and it has been this year taken by a collector in the same neighbourhood the end of June in a very fine condition.

The plant is *Lamium album* (White Archangel).







P



4a

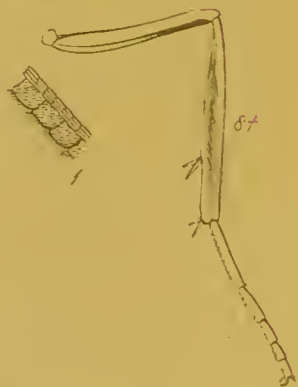


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87

## OURAPTERYX SAMBUCARIA.

## The Swallow-tail Moth.

ORDER Lepidoptera.

FAM. Phalænidæ.

*Type of the Genus, Geometra Sambucaria Linn.*OURAPTERYX *Leach, Sam., Curt.*—*Acæna Och.*—*Urapteryx Goda.*—*Phalæna Geometra Linn., Hüb., Haw.**Antennæ* a little stouter in the male than female, long and setaceous, inserted close to the eyes on the crown of the head, clothed with scales above, very pubescent (not ciliated) beneath (1).*Labrum* triangular (2).*Mandibles* horny ovate and ciliated internally (2).*Maxillæ* nearly as long as the antennæ, rather slender and spiral (3).*Labial Palpi* recurved, thickly clothed with scales, long beneath on the basal joint, the apical one just apparent, composed of 3 joints, 1st the longest and stoutest, curved, 2nd nearly as long, slender and slightly attenuated, 3rd minute ovate (4 and 4 a).*Male smaller than the female.* Head small and short, densely clothed with short scales: eyes globose and lateral. Thorax tolerably robust, clothed with long silky hairs. Abdomen slender in the male, stouter in the female. Wings ample extended horizontally in repose, superior trigonate, the apex slightly acuminate, inferior extending beyond the body, acuminate at the middle and forming a tail, cilia very short. Legs rather long. Tibiæ, anterior with a long twisted lanceolate spine on the inside, intermediate pair long and terminated by short spurs, posterior longer and robust, with a bundle of fine long silken hairs on the inside, protected in a groove, with a pair of short spurs at and another pair above the apex (8† hind leg).*Larvæ*, loopers with 6 pectoral, 2 abdominal and 2 anal feet.SAMBUCARIA *Linn.—Curt. Guide, Gen. 940. 1.*

Pale yellow; underside of antennæ and maxillæ ferruginous; face and palpi ferruginous-brown; eyes pitchy; wings with transverse pale brownish lines, more crowded and strongest towards the posterior margin; superior with two yellowish brown strigæ across the centre, with a very slender crescent of the same colour between them, the outer striga concave, the inner one nearly straight and continued across the inferior wings almost to the anal angle; on these wings there are two scarlet spots at the base of each tail, the margins freckled with black, the inner one often very minute; cilia orange, bright in the under wings.

*In the Author's and other Cabinets.*

THE interesting history of *Urania* and the valuable illustrations lately published in the Transactions of the Zoological Society, from the able pen and pencil of Mr. W. S. MacLeay, induced me to examine *Ourapteryx*, some species of which are said to inhabit Surinam, and probably other countries where *Urania* is found, which it considerably resembles in its contour, and even the spots on the under wings seem to be borrowed from the *Papilionidæ* to adorn this elegant Moth. There is, however, no *affinity* between *Urania* and *Ourapteryx*, the former being allied to the *Hesperidæ* and the latter belonging to the true *Phalænidæ*: it is evidently related to my Genus *Macaria* (pl. 132.), and like many others of this family the posterior tibiæ are dilated and furnished with long hairs on the inside. The larva is a true looper, and the manner in which the case, formed of leaves to inclose the pupa, is suspended, like the nests of some birds, is very remarkable. The chrysalis seems to be furnished at the tail with an elongated bifid hook, attaching it most likely to the case, by which means the moth is better enabled to extricate itself when it is hatched. Sepp's beautiful figures of the larvæ do not quite agree with those of Hübner, from whom ours is copied, as well as the plant, cocoon and pupa (fig. P.), and this is represented by Sepp much more like the chrysalis of a *Papilio*.

The antennæ are described by Linnæus as pectinated, and by Dr. Leach as somewhat ciliated, but they are merely densely clothed beneath with short oblique hairs.

*O. Sambucaria* is distributed over the whole of Europe, and is by no means uncommon in most places in this country in gardens and hedges, the beginning of July: at Swaffham Prior in Cambridgeshire Dr. Jermyn observes it in abundance in his Garden, and Mr. Simmons has frequently found it in Huntingdonshire in White-thorn hedges in the evening, generally after a shower of rain.

The favourite food of the Caterpillar is the Common Elder (*Sambucus nigra*), but it feeds also on the leaves of many other plants, as the Jasmine, the Privet, the Sallow, and, I presume, the Gooseberry, as Hübner has represented the Caterpillars feeding on that bush.







Des. by J. Curtis July 1. 1835

## PLATYPTERYX FALCATARIA.

## The Pebble Hook-tip Moth.

ORDER Lepidoptera.

FAM. Phalænidæ.

*Type of the Genus, Phalæna falcata Linn.*

PLATYPTERYX *Lasp., Och., Goda, Curt.*—*Drepana Schr., Lasp., Curt.*—*Syssaura* and *Bombyx Hüb.*—*Falcaria Haw.*—*Phalæna Linn.*

*Antennæ* inserted close to the eyes on the crown of the head, short, bipectinated in the male (1); simple or slightly bipectinate in the female (1 ♀): the branches ciliated internally.

*Maxillæ* short, broad and leathery, formed of 2 lobes curved at the apex, where the internal margin is slightly ciliated (3).

*Labial Palpi* small, hairy and recurved, appearing like a pencil of hairs (4); triarticulate, basal joint the longest and stoutest, straight, 2nd curved, 3rd nearly as long as the 2nd, compressed and sublanecolate (a).

Head *very short, clothed with depressed scales: eyes lateral and subglobose* (7). Thorax *small and clothed with depressed scales*. Abdomen *short and slender, especially in the males*. Wings *nearly horizontal (or triangular according to Sepp) in repose, superior ample and more or less falcated, sometimes indented: inferior generally rounded*. Tibiæ, *anterior with an intercal spine near the apex, the others spurred, the hinder pair sometimes with spurs above the apex* (8 ♂): tarsi *rather stout and 5-jointed: claws small*.

*Larvæ* *tuberculated, with 6 peitoral and 8 abdominal feet. Pupæ, contained in a cocoon, inclosed in a partially rolled leaf.*

FALCATARIA *Linn.*—*Curt. Guide, Gen. 943. 1.*

Ochreous, sometimes brownish; superior wings with 2 denticulated brown strigæ near the base and another angulated one beyond the middle, with a roundish slate-coloured spot on the disc and 2 dots above it, an oblique brown line sometimes suffused issuing from the apex, with an indented line, curved at the tip, where it is purplish, and running parallel to the cilia which are brown: inferior wings with 4 denticulated strigæ and a serrated line round the posterior margin, with a row of dusky spots above. Abdomen banded with fuscous.

*In the Author's and other Cabinets.*

THE remarkable Larvæ so much resembling those of *Cerura* (the Puss and Kitten Moths, fol. 193.), and the perfect Insects so very like the Atlas Moth in miniature, led some naturalists to associate this group with the Bombycidæ; but I think *Platypteryx* is more allied to the Phalænidæ, and that the place assigned to them in the Guide is more natural: at the same time it is worth observing, that whilst in that species most resembling the Atlas Moth the maxillæ are more like those of the Bombycidæ, when they are present in that family; in those removed from the type they are well developed and spiral.

The following sections appear to me to be much more useful than dividing this group into two genera on the mere outline of the wings.

A. Posterior tibiæ armed with one pair of spurs.

\* Superior wings denticulated.

1. *P. lacertinaria* Linn.—Don. 7. 251. 2.—*scincula* Hüb. Bomb. 12. 50.—*curvula* Haw. and *cultraria* Lea. vars.

End of May, Birch-trees; "March 7th, 1801, in Mr. Livius's garden, Bedford, Dr. Abbot;" Teignmouth, Captain Blomer; Bere-wood, Dorset, Mr. Streatfield; June 30th, Castle Eden Dene, Mr. Wailes.—*cultraria*, July 22nd, Elsington-wood, Dorset, Mr. Dale. Larva end of September on Birch-trees.

\*\* Superior wings falcated but entire.

2. *falcataria* Linn.—Curt. B. E. pl. 555 ♂.—Sepp, v. 2. t. 12.—*falcula* Hüb. 11. 44.

Middle of May, middle of June, and beginning of August, Birch-wood; New Forest, Parley Copse, and Cranborne Chace, Mr. Dale; Stover-woods, Devon, Capt. Blomer; and Yorkshire. The beautiful specimen figured was taken, I believe, at Kinnordy by Mr. C. Lyell. The larva, an outline of which is added, is found in August on the Birch, Alder, Trembling Poplar, Sallow, and Oak.

B. Posterior tibiæ armed with two pair of spines. Maxillæ more developed and perfect.

3. *hamula* Hüb. 12. 46. & 47.—Goda, 140. 3.—*falcata* Fab.—*sicula* Sepp, v. 2. t. 16.

Middle of July, Oak-woods; flying in the day in Birch-wood the middle of last May, Mr. J. Standish; end of May and beginning of June, Clapham Park Wood and Enborne. Larva on Oak and Birch-trees.

4. *uncula* Hüb. 12. 45.

Indicated in the Syst. Cat. as a var. of the foregoing, but I know no reason for considering it as such, neither am I aware of any British specimen existing in our Cabinets. Haworth refers with doubt to the above figure as synonymous with Mr. Swainson's Insect.

5. *unguicula* Hüb. 12. 48.—Goda, 140. 4.—*sicula* Esp.

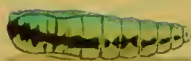
June, Richmond Park: Mr. B. Standish says the males fly about like *Orgyia antiqua* (fol. 378); near Beech, New Forest, beginning of May, and at Glanville's Wootton and Middle-marsh end of May and beginning of June, Mr. Dale. Larva on Oak, Beech, and Black-thorn.

6. *fasciata* Step.—*uncula* Haw.

Taken in England by Mr. Swainson.

The Plant is *Arbutus Uvaursi* (Bearberries) in fruit, with an outline of the flower.







## HALIAS QUERCANA.

The Green or scarce silver-lines.

ORDER Lepidoptera.

FAM. Tortricidæ.

*Type of the Genus, Tortrix Quercana Hüb.*

HALIAS Treit., Dpnchl., Curt.—Cloephora Step.—Hylophila Hüb., Step.—Earris Hüb.—Pyralis Fab.—Tortrix Linn., Haw.

*Antennæ* inserted close to the eyes on the crown of the head, capillary, rather short and slender, composed of oblong joints, each with 2 bristles and 2 layers of scales outside, pubescent within (1), basal joint stout and subtrubinate, terminal one ovate-conic, acuminate and pilose.

*Maxillæ* spiral and much longer than the palpi, the apex furnished with tentacula (3). *Palpi* very minute (3 a).

*Labial palpi* porrected obliquely beyond the head, clothed with short scales (4), distinctly triarticulate, basal joint long and curved, 2nd linear not stouter, nor twice as long, 3rd more slender, horny, subelliptic and compressed, with a callous spot at the apex (4 a).

Head transverse-ovate: eyes prominent and orbicular (7, head in profile): ocelli minute. Thorax clothed with rather long depressed hairy scales. Abdomen conical at the apex, rather obtuse in the males. Wings gently deflexed and forming a triangle in repose, superior broad, the costa curved, apex truncated obliquely, cilia very short; inferior wings rather small, rounded, cilia short: tibiæ, anterior with a broad internal spine, the others terminated by unequal spurs, hinder very long and stout, with a pair of spurs also below the middle: tarsi 5-jointed, posterior with series of spines beneath (8 † hind leg).

Larvæ naked, slightly attenuated to the tail, with 6 pectoral, 8 abdominal and 2 anal feet.

Pupæ obtuse, inclosed in boat-shaped cocoons, closely and firmly made with silk, upon the leaves of trees.

QUERCANA Hüb.—Curt. Guide, Gen. 945. 2.

*In the Author's and other Cabinets.*

MR. STEPHENS in his Illustrations says he has "adopted the name employed by Hübner (viz. Hylophila) in preference to that of Treitschke (Halias), both on the score of priority, and to avoid the confusion by using a word far too similar to Halia." Mr. Stephens is singularly unfortunate in his corrections, for Hübner's name has been for many years employed by Mr. Kirby to designate a genus of Hemiptera, which has been adopted by Mr. Stephens in his Systematic Catalogue.

These beautiful insects, which are the largest of the family, cannot be surpassed in the charming combination of green and white in which they are clothed. The caterpillars form compact cocoons, like a boat, sometimes with the keel uppermost,

instead of rolling the leaf up as practised by the genuine *Tortricidæ*.

Although there are only 3 British species, they vary considerably in their form, &c., and by the following divisions it will be seen that if the last be established as a genus, the other two have equal claims to the same distinction. It is remarkable that all English writers, until the error was corrected in my Guide, had misnamed the two first species. The mistake originated in Fabricius; but it is singular, after the observation made by Donovan, and the clear description of Linnæus in his *Faun. Suec.*, that Haworth and other writers should not have seen their error.

\* Antennæ tapering to the base and apex. Palpi slightly hairy.

1. *H. prasina* Linn.—*Fragana* Fab.—*Don.* 8. 281.—*Sylvana* Fab.

White, head and thorax green, lateral lobes margined with white: superior wings pea-green, with 3 oblique white lines, that reaching the apex curved; cilia, costa, outside of legs and antennæ bright red in the male: expansion of wings 18 lines.

From the end of May to end of July, paths in woods round London, also in Durham, Bedford, Kent, and Devon. Penwood, Hants; near Newbury; New Forest and Glanville's Wootton; Mr. Dale.

Larva in Aug. and Sept. on Beech, Birch, Alder, and Oak.

\*\* Antennæ setaceous. Palpi clothed with short scales.

2. *Quercana* Hüb.—*Curt. Brit. Ent. pl.* 575.—*prasinana* Fab.

White; clypeus, outside of palpi, antennæ and anterior legs bright red, crown of head, thorax (except the anterior margin), and superior wings of a fine uniform grass green, 2 fine oblique white lines across the centre, the costa and cilia white also. Seldom so large as the figure.

From middle of June to middle of July, Coomb, Birch, and Darent Woods; once found in Durham. Glanville's Wootton and Middle Marsh; Mr. Dale.

Larva on Oaks and Alders, in May and September.

\*\*\* Palpi rather stouter, 2nd joint more scaly.

3. *Clorana* Linn.—*Hüb.* 25. 160.

White; thorax, excepting the collar, green; superior wings of the same colour, with a broad space on the costa at the base and the cilia white: expansion 11 lines.

Beginning of June, Willow-beds, near Norwich and Parley Heath, Hants; 19th July, Whittlesea Mere, J. C. Battersea Fields, and the banks of the Thames at Woolwich, Plumstead and Erith, in Kent.

From M. Duponchel we learn that the larva is found in France, the end of July and beginning of August, on various Sallows, feeding amongst the leaves at the extremity of a twig or branch, which it unites with threads.

*Obs.* The larva, pupa, and oak-leaves are copied from Hübner; the moth and cocoon are from nature.





Drawn by J. Curtis 1825



## TORTRIX GALIANA.

## The Sweet Gale Tortrix.

ORDER Lepidoptera.

FAM. Tortricidæ.

*Type of the Genus, Tortrix viridana Linn.*TORTRIX Linn., Hüb., Haw., Och., Goda, Curt.—Pyralis Lat., Fab.  
—Lozotania & Ditula Step.*Antennæ* inserted on the crown of the head, shorter than the body, setaceous, stoutest in the males, and very pubescent beneath (1 ♂ the base).*Maxillæ* shorter than the labial palpi, formed of 2 rather broad spiral lobes (3). *Palpi* short, attached to a tubercle or scape, biarticulate, basal joint the largest, both ovate (3 a).*Labial palpi* large, porrected horizontally beyond the head, parallel, densely clothed with scales, which form an arch or crest above and a keel beneath, projecting almost to the apex, on which the terminal joint rests (4): triarticulate, basal joint short, eurved, pyriform-truncate, 2nd very long and inflated beyond the middle, 3rd as long as the 1st; slender elliptical and slightly drooping (a).

Head small, thickly tufted on the crown: eyes large and globose (7, the profile). Thorax not crested. Abdomen linear, the apex tufted in the male, stouter, shorter, ovate and obtuse in the female. Wings forming an ovate triangle in repose: superior elliptic, the costa very much arched and rounded at the base, the apex truncated, sometimes a little falcated, posterior angle rounded: inferior wings a little indented near the apex: eilia short. Legs rather short and stout: tibiæ, anterior very short, with a long internal spine, intermediate with a very long and a short spur at the apex, the others with 2 pair of spurs, one pair at the middle (8†): tarsi moderate and 5-jointed: claws and pulvilli minute.

Larvæ with 6 pectoral, 8 abdominal and 2 anal feet: Pupæ with the abdominal segments serrated.

GALIANA Bent. MSS.—Curt. Guide, Gen. 946. 4.

*Male* shining, yellowish mouse-colour: superior wings broad, elongate-trapezate with obscure ferruginous patches: inferior palest at the base; eilia yellowish-white. *Female* subferruginous; superior wings slightly narrowed beyond the middle, the apex a little produced, faintly reticulated, with a broad oblique fascia across the middle, abbreviated, truncated and not reaching the posterior angle, and an obscure dash on the costa near the apex: inferior fuscous; eilia and abdomen whitish-ochre.*In the Cabinets of Mr. Bentley, Mr. Dale, and the Author.*THE group which best represents the Tortrices of Linnæus is nearly allied to *Halias*, pl. 575; their wings repose in a similar attitude, but the maxillæ are much shorter, the palpi are horizontal and very different, and their metamorphoses vary very considerably: the same broad triangular or ovate but depressed form of the wings when resting, distinguishes them from most of the other Tortricidæ; and from *Peronea*



and those genera which they most resemble in this respect, it is not so easy to separate them, except by the characters which the superior wings supply.

Many of the Tortrices are very destructive to plants, some causing most extensive injury to the vines, especially in France; others destroy our roses, and *T. viridana* sometimes completely defoliates our oak-trees. The caterpillars roll themselves up in the leaves, forming a tunnel open at both ends, and when disturbed they wriggle out, being very active, and fall down suspended by a thread, which enables them to re-ascend when their alarm has ceased: they change to pupæ in the rolled leaf, the chrysalis being slightly held by a few threads, but they vary considerably in their œconomy.

1. *viridana* Linn.—Hüb. 25. 156.—Wood, pl. 29. 844.
2. *flavana* Hüb. 25. 157.—*palleana* Och.—Wood, 846.
3. *unitana* Hüb. 19. 123.—*Viburnana* Och.—Wood, 847.
4. *Galiana* Bent.—Curt. Brit. Ent. pl. 763. ♂. ♀.

First noticed by Mr. Bentley, who took it, I believe, at Whittlesea Mere in July: I have captured both sexes on Parley heath, also near Kenmare and Glengariff, and in the Isle of Skye in August, where I observed the terminal shoots of the *Myrica* spun together, probably by the larvæ of this moth.

5. *Forsterana* Fab.—Wood, 848.
6. *Avellana* Linn.?—*Sorbiana* Hüb. 18. 113.—Wood, 849.
7. *Carpiniana* Hüb. 18. 116.—*heparana* Och.—Wood, 850.—*fasciana* and *Pasquayana* Fab.
8. *Ribeana* Hüb. 18. 114.—Wood, 852.
9. *Cerasana* Hüb. 19. 119.—Wood, 854.
10. *Corylana* Fab.—Wood, 855.—*textana* Hüb. 18. 115.
11. *Rosana* Linn.—Wood, 861. ♂. ♀.
12. *fulvana* W. V.—*Ameriana* Linn.—*Pyrastrana* Hüb. 20. 124. var.—*Gerningana* Haw.
13. *Oxyacanthana* Hüb. 18. 117.—*acerana* Hüb. 19. 118.—*variana* Fal.—*lævigana* W. V.—Wood, 857.
14. *Branderiana* Linn.?—Wood, 862.—*Cratægana* Hüb. 17. 107.
15. *Roborana* Hüb. 20. 125. ♀.—126. ♂.—Wood, 864.—*Xylostearia* Treit.
16. *Xylostearia* Linn.—Wood, 863.—*characterana* Hüb. 20. 125.
17. *oporana* Linn.—Hüb. 18. 112.—Wood, 860.—*Hermanniana* W. V.
18. *costana* Fab.?—Wood, 866.—*Gnomana* Hüb. 21. 131.—*Betulana* Don.—*Spectrana* Och.
19. *Grotiana* Fab.—Wood, 871.—*flavana* Hüb. 21. 133.—*Ochreana* Hüb. 21. 134.
20. *croceana* Hüb. 19. 120.—Wood, 856.
21. *sylvana* Hüb. 20. 128.—Wood, 902.
22. *cruciana* Linn.—Wood, 873.—*cinerana* Fab.?—*angustana* Hüb. 32. 205.
23. *angustiorana* Haw.—Wood, 879.—*rotundana* Haw.

The pilose antennæ of the male will induce me to refer this species to my genus *Amphisa*.

The plant is *Myrica Gale*, Sweet Gale or Dutch Myrtle.





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## AMPHISA WALKERANA.

ORDER Lepidoptera. FAM. Tortricidæ *Leach*.*Type of the Genus Tortrix pectinana Hüb.*AMPHISA *Nob.*—*Tortrix Hüb.*

*Antennæ* remote, inserted close to the eyes (fig. 1); setaceous, bipectinated, each joint producing 2 equal branches, gradually lengthening to the middle, each branch irregularly pilose (1a); or the joints producing a tuft of hair on each side (1b).

*Maxillæ* short, not longer than the Palpi (3).

*Labial Palpi* rather remote, porrected horizontally, considerably longer than the head, thickly clothed with scales, subclavate (4), triarticulate, basal joint small drooping, 2d long horizontal, robust, subclavate, 3d short, slender, slightly nutant (4a and 4b).

Head *rather broad*. Eyes *small*. Abdomen *tufted at the apex*. Wings *probably horizontal and forming a triangle when at rest; superior longer than the body, narrowed at the base, truncated obliquely, costal margin slightly indented, discoidal cell open at the apex, the superior half producing only 6 nervures, the apical one being furcate at the extremity (9)*. Tibiæ, *anterior very short, posterior long, producing 2 spines at the apex and a pair at the middle*. Tarsi *5-jointed*. Caterpillars *with 16 feet?*

WALKERANA *Nob.*

Pale grayish ochre, sometimes fuscous. *Antennæ* robust at the base, each joint producing tufts of hairs of unequal length (1b). Palpi hairy and less elongated than in the type (4b). Head and thorax subferruginous; abdomen black, sprinkled with whitish scales, the apex tufted with ochreous hairs. Superior wings pale, sometimes dark gray, fuscous towards the base, with a large triangular subferruginous spot broadest at the costa, upon which is an oblique oblong gray spot and a small one at the apex: inferior wings ochraceous spotted with fuscous, darkest at the base.

*In the Cabinets of Mr. Walker and the Author.*

It frequently happens that very natural groups of Lepidoptera cannot be formed into genera by the same rules as the other orders; and as the caterpillars are frequently so very

dissimilar even in kindred insects, that they cannot be depended upon in the combination of species, it becomes extremely difficult to characterize them. As we believe that most valuable characters might be obtained from the attitudes and figures of the moths when at rest, from the disposition of their wings, abdomens, antennæ and legs, especially amongst the Tortricidæ and Tineidæ, we would recommend an attention to this subject. It may not be thought irrelevant to observe, that we believe from experience, that in all the other orders, the best sources of *generic* distinction are the trophi, antennæ, and the nervures of the wings; that *species* ought to be distinguished by form, sculpture, and disposition of colour, which latter character however, as well as size in most orders, is subject to great variations, and is the criterion of sex or *varieties*: this ought strongly to be impressed upon the mind of the student, because the ends of science will be better answered by generalizing than by dividing where it is not absolutely necessary.

Of the genus described there are at present but two species, which may be distinguished from the rest of the family by their pectinated antennæ.

1. *A. pectinana* *Hüb. pl.* 17. *f.* 108. In ascending Craig-challoch, near Killin, the 21st July 1825, I took a single specimen of this moth amongst the heath: about the same time Mr. Stone (who obligingly gave me specimens) received several from Birmingham; and amongst some valuable insects captured in Scotland, and communicated by Charles Lyell, Esq., was a specimen taken the beginning of last September in the neighbourhood of Kinnordy.

2. *A. Walkerana* *Nob.* Two specimens of this pretty moth which I have the pleasure of dedicating to the captor, were taken last summer near Lanark by Henry Walker, Esq., and transmitted to his brothers at Southgate, to whose friendship and liberality I am indebted for this and many other rarities.

All the specimens of this genus hitherto discovered have pectinated antennæ, and appear to be males.

The plant is *Cerastium latifolium* (Broad-leaved rough Chickweed), which I met with on the mountains of Scotland and Westmoreland.







## PÆDISCA SEMIFASCIANA.

## The short-barred Grey Moth.

ORDER Lepidoptera.

FAM. Tortricidæ.

*Type of the Genus, Tortrix profundana Wien. Verz.*

PÆDISCA Treit.—Thirates Treit., Curt.—Eudemis and Aphanis Hüb.  
—Ditula Step.—Tortrix Haw., Treit.—Pyralis Fab.

*Antennæ* inserted close to the eyes on the crown of the head, short and setaceous, composed of numerous turbinate joints clothed with scales above, pubescent beneath (1).

*Maxillæ* spiral, but not longer than the palpi (3).

*Labial palpi* porrected obliquely, a little divaricating, clavate, compressed, densely clothed with short scales, the tip of the apical joint apparent (4), triarticulate, basal joint short, clavate, 2nd long and inflated towards the apex, 3rd a little shorter than the 1st, slender, elongate-conic (4 a).

Head rough with hairy scales: eyes large and ovate: ocelli distinct.

Thorax clothed with depressed scales. Abdomen rather long linear and tufted at the apex in the male. Wings very slightly deflexed in repose, rather short and broad; superior with the costa arched, the apex truncated and rounded; inferior ovate-trigonal, very little emarginate towards the apex. cilia short. Legs, anterior the shortest and stoutest: tibiæ, anterior very short, obtrigonal, with an internal spine; intermediate robust, spurred at the apex, hinder long and stout, with a pair of unequal spurs at the apex, and another pair at the middle: tarsi 5-jointed: claws minute (8 †, hind leg).

Larvæ with 6 pectoral, 8 abdominal and 2 anal feet?

Obs. The dissections were taken from the Insect figured.

SEMIFASCIANA Haw.—Curt. Guide, Gen. 948. 5.

Silvery-grey, sometimes cinereous: superior wings with numerous short irregular transverse lines most distinct on the costa; a brown angulated fascia near the base, with several black dots; an abbreviated brown fascia at the middle of the costa terminated in the centre by a longitudinal black line; there are 2 brown spots on the costa towards the apex, where there are also several black dots sometimes assuming a furcate form: inferior wings and abdomen ochreous fuscous.

Obs. Sometimes the black dots are not visible and the line is very indistinct.

*In the Author's and other Cabinets.*

WHILST my Guide was printing I received Treitschke's 7th volume, just in time to add his names to the Tortricidæ, and amongst them Thirates. Hübner, it appears, had divided this little group into two genera, yet Mr. Stephens has lately given it a new name, so that the five species are burthened

with as many generic appellations, and he adds, "the genus is decidedly not synonymous with *Thirates* of Treitschke, as given by Mr. Curtis, the type of that genus being *Pædisca profundana*." Now the fact is, that Treitschke has since changed his generic name; but the 1st and 3rd species of my 948th Genus are actually his types, and what is still more remarkable, they are admitted into Mr. Stephens's new genus under the names of *porphyra* and *Wellensiana*, the former being synonymous with *profundana*, the latter with *scutulana*.

The following are our British species of *Pædisca*.

1. *profundana* *Wien. Verz.*—*porphyra* *Hüb. Tort. tab. 5. f. 26.*

"Wings glaucous ash-colour, shining, with 3 oblique fuscous brown bars." *Haw.*

End of June and beginning of July, Birch and Darent Woods and the New Forest.

2. *nebulana* *Don. 11. 364. 3.*—*Haw. 461. 215.*

"Wings somewhat ferruginous griseous, with 3 oblique fasciæ, obscure and suffused." *Haw.*

July, Broomfields? Kent, also in Birch and Darent Woods and the New Forest.

3. *scutulana* *Wien. Verz.*—*Wellensiana* *Hüb. 37. 237.*—*asseclana* *Hüb. 4. 19?*—*Æthiopiana* *Haw. var. 462. 216.*

Superior wings griseous-fuscous, sometimes ferruginous, with a basal fascia, darkest at the interior margin, with a large white spot contiguous at the middle; an oblique suffused fascia at the centre, narrowed at the costa, which is spotted with a longitudinal black stripe across the middle; a large sublunate brown space towards the apex, which bears a brown spot; cilia striped. A very variable species; some individuals being ochreous others blackish.

End of July to end of August; Birch and Darent Woods: J. C. Also in Surrey, Hants, and Devon.

4. *Hartmanniana* *Linn.*—*scriptana* *Hüb. 17. 110.*

Superior wings whitish or cream-colour, somewhat clouded, with a brown interrupted fascia at the base and a broader one at the middle, with a black longitudinal line across the centre, where the fascia is nearly divided by the white ground; costa spotted and several oblique grey and brown lines towards the apex; interior margin brown.

July, near London and in Devon.

5. *semifasciana* *Haw. 431. 115.*—*Curt. Brit. Ent. pl. 571, ♂.*

From the beginning to the end of August in Coomb Wood, and at Hurne, Hants: J. C. Hedges, Kent and Brockenhurst.

The Plant is *Ribes nigrum* (Black Currants), from the banks of the river in the neighbourhood of Thetford, Norfolk.







## PENTHINA GREVILLANA.

The Sutherland Long-cloak.

ORDER Lepidoptera.

FAM. Tortricidæ.

*Type of the Genus, Tortrix corticana Hüb.*PENTHINA *Treit.*—Penthina *Treit.*, *Curt.*—Apotomis *Hüb.*—Tortrix *Linn.*, *Hüb.*, *Haw.**Antennæ* inserted close to the eyes, on the crown of the head, short, setaceous and rather stout, clothed with scales above, pubescent beneath (1), basal joint stout ovate, and hairy.*Maxillæ* spiral, rather stout and not longer than the palpi (3).*Labial Palpi* porrected obliquely, not contiguous, rather stout and thickly clothed with short scales, the apical joint a little apparent (4), triarticulate, basal joint short and inflated towards the apex, 2nd long stout and incrassated at the extremity, 3rd small, elongate-ovate (4 a).*Head* having the crown clothed with long scales, meeting down the middle (7). *Thorax* subglobose. *Abdomen* linear and tufted at the apex in the males. *Wings* slightly cylindric and deflexed in repose, longer than the body, superior elongate trapezate, the costa arched, the apex truncated obliquely and rounded; inferior ovate-trigonate, the apex slightly narrowed but rounded; cilia short. *Legs*, anterior very short; thighs and tibiæ very short in the same, the latter with an internal spine, the others with spurs at the apex, the posterior, which are long and very scaly, having a pair also a little below the middle: tarsi 5-jointed, basal joint elongated (8 †, hind leg).*Larvæ* with 6 pectoral, 8 abdominal and 2 anal feet.GREVILLANA *Curt. MSS.*—*Guide*, *Gen.* 949. n. 5<sup>a</sup>.

Greyish-black: head and apex of abdomen subochreous: superior wings long and narrow, variegated with interrupted black transverse lines and spots, a large space at the apex white forming 2 claws on the internal margin, with a long grey oblique line arising at the posterior angle and furcate at the extremity, the apex black, with white dots forming two oblique stripes; cilia black: inferior wings yellowish-fuseous, palest at the base; cilia of the same colour.

*In the Cabinets of Mr. Jas. Wilson and the Author.*

THE Penthinæ so much resemble the feces of small birds in colour, that when these moths are sitting on a leaf with their wings closed, it is often difficult to determine what they are. When in repose their wings do not form an elongated triangle like the true Tortrices; for although they are deflexed, they are generally convex, and consequently somewhat cylindrical, and bear a greater resemblance in figure to some of the Tineæ.

The following are our British species :

1. *P. corticana* Hüb. Tort. pl. 3. f. 13, ♀.—*capreana* Hüb. pl. 40. f. 250 ♂.

I find it common in the chinks of the bark of Birch-trees in the open parts of Coomb-wood the middle of June; and it is found also the end of May and September.

2. *Betuletana* Haw. p. 432. 119. Middle of August, Birch-trees, Coomb-wood.
3. *Gentianana* Hüb. 3. 12.

The Larva feeds on a species of *Dipsacus*.

4. *variegana* Hüb. 3. 14.—*Cynosbana* Don. 10. 355. 3.—*tripunctana* Haw., but not of *Fabricius*.

The Caterpillar feeds on the Ash; and the Moth appears the beginning of June in hedges.

5. *Pruniana* Hüb. 3. 15. June, woods and gardens.

- 5<sup>a</sup>. *Grevillana* Curt. Brit. Ent. pl. 567, ♂.

This formed another of the novelties captured in July in Sutherlandshire by Dr. R. K. Greville and Mr. James Wilson, to whom I am indebted for my specimen; and I have the gratification of dedicating it to the former gentleman, who is no less eminently distinguished for his works on the *Cryptogamiæ* than he is for his taste and acquirements in the arts and sciences.

*P. Grevillana* is distinguished from its congeners by the narrower wings, which give it a more elongated form; and the cilia of the upper wings are not so black in any of the other species.

6. *pullana* Haw. 434. 125.
7. *marginana* Haw. 433. 124.
8. *oblongana* Haw. 433. 123.
9. *Salicella* Linn.—*Salicana* Hüb. 3. 11.—Roesel v. 4. pl. 9. f. 1—4.

Middle of August, trunks of Willows and Sallows, especially *S. caprea* and *viminalis*.

For specimens of the rare *Veronica triphyllos* (Fingered Speedwell) represented in this plate, as well as for those in the next (pl. 568), I am indebted to Lady Blake, who gathered them last May in sandy fields above West Stow Heath near Bury; and I afterwards met with them near Thetford, where the former was abundant in a field of Saint Foin, and the latter on the Warren.







## SPILONOTA MARMORANA.

The marbled Dog's-tooth Moth.

ORDER Lepidoptera.

FAM. Tortricidæ.

*Type of the Genus, Tortrix comitana Hüb.*

SPILONOTA *Step.*, *Curt.*—Hedya, Notoecia, Epiblema and Epinotia *Hüb.*—Orthotænia *Step.*—Zeiraphera and Sciaphila *Treit.*—Tortrix *Linn.*, *Hüb.*, *Haw.*—Pyrallis *Fab.*

*Antennæ* inserted on the crown of the head close to the eyes, shorter than the body, rather stout and filiform, composed of numerous short joints, clothed with scales above and pubescent beneath (1).

*Maxillæ* not longer than the labial palpi, spiral and very much attenuated, furnished inside at the apex with a double series of tentacula (3). *Palpi* minute and biarticulate (3 a).

*Labial palpi* porrected, conniving, densely clothed with short broad scales, giving them a trigonate form and completely concealing the apical joint (4), triarticulate, basal joint not very stout and kidney-shaped, 2nd long and considerably dilated, narrowed at the base and rounded at the apex, 3rd not so long as the 1st and subfusiform-ovate (4 a).

Head with the scales meeting down the centre: eyes lateral orbicular and prominent. Thorax small, the scales depressed. Abdomen rather short and tufted at the apex in the males. Wings deflexed in repose, considerably longer than the body, superior linear, truncated obliquely, the costa arched; inferior ovate-trigonate, the apex narrowed but rounded, cilia rather short. Legs stout: thighs posterior short: tibiæ, anterior very short with an internal spine; intermediate short clothed with long scales, extending beyond the apex with one long spine and another shorter; posterior long and scaly, with a shorter pair of unequal spines at the apex, and another pair at the middle: tarsi 5-jointed, basal joint long, all the others very short, excepting in the hinder pair: claws minute (8 †, the hind leg).

Larvæ with 6 pectoral, 8 abdominal and 2 anal feet.

MARMORANA *Hüb.*—*Curt. Guide, Gen.* 950. 26.—Achatana *Wein. Verz.*

Brown; superior wings dark, the posterior margin concave under the apex; a double angulated white and gray striga near the middle, uniting on the disc with a sublunate gray and white mark, extending to the posterior angle, and inclosing a large brown subovate spot with an undulating margin, the nervures crossing it forming 4 or 5 bright ferruginous streaks, a triangular space at the apex of the same colour divided obliquely by a whitish streak inclosing the apex, and about 6 double short white lines on the costa, cilia white at the base under the apex; inferior wings with a slight rosy tint, a yellowish line at the base of the cilia: tarsi annulated with ochre; margins of abdominal segments pale.

*In the Cabinets of Mr. Bentley, the Author, &c.*

THE following are British species of Spilonotæ:

1. *nubiferana* *Harw.* Middle of June, hedges, Darent Wood and Isle of Dogs.
2. *cynosbatella* *Linn.* July and August, gardens.
3. *aquana* *Hüb.* June, on rose-bushes, gardens and Coombe Wood.
4. *trimaculana* *Harw.* End June, b. July hedges and woods.
5. *amplana* *Hub. ? Tort. pl. 5. f. 24.*
6. *maculana* *Fab.* End of September skirts of woods.
7. *Sparrmanniana* *Fab.* 10th August, in abundance amongst heath on Ellen's Island, Loch Katrine, and in a marsh at Hurne, Hants.
8. *piceana* *Harw.* September, heaths, Surrey.
9. *sordidana* *Hub. ?*
10. *inopiana* *Harw.* 469. 238.
11. *Solandriana* *Linn.* August, open places in woods, Dover and Trossacks.
12. *vittana* *Curt.* Cinereous, superior wings ochreous, with a chocolate stripe on the costa, broadest at the extremity, but not reaching the apex, and another of the same colour, but arched, on the interior margin. October, Niton, Isle of Wight.
13. *antiquana* *Hüb.* Middle of August, Dover; beginning of July, weedy banks, Suffolk.
14. *semifusca* *Step.*
15. *fœnella* *Linn.* August, Wisbeach, Norfolk, Kent, and Epping Forest.
16. *Stræmiana* *Fab.* Beginning of June, Undercliff Isle of Wight; end of July, Coombe and Darent.
18. *Pflugiana* *Harw.* June, Coombe, Birch, and Darent woods.
19. *rusticana* *Hüb.* June, grass and rushes in fields, Glanville's Wotton; end of August, hedges.
17. *trigeminana* *Step.* "July, Ripley."
20. *sticticana* *Fab.* End July, Coombe Wood; Aug. hedges.
21. *costipunctana* *Harw.* Beginning of June, Barton Cliff and Isle of Wight, amongst Thistles and Coltsfoot.
27. *argyrana* *Step.* "August, Highlands of Scotland."
28. *quadrana* *Step.* "July, Scotland."
22. *Schreberiana* *Linn. ?—Panz. 7. 19.*
23. *tetragonana* *Step.* July, Coombe and Darent woods.
24. *nigricostana* *Harw.* Beginning of June in a hedge near Primrose Hill, and on elm trees.
29. *ustulana* *Harw.* June, Coombe Wood and Norfolk.
25. *comitana* *Hüb.* Middle of June, hedges, woods and paling.
26. *marmorana* *Hüb.—Curt. B. E. pl. 551.* This insect resembles *Orthotænia undulana*, and bears some affinity to *Aspis Udmanniana*, with which I associated it in the Guide, under the name of "*similana*," from having only bad specimens. I have since seen very fine ones taken by Mr. Bentley and Mr. Chant on White-thorn bushes in Epping Forest the middle of July.

The Plant is *Poa trivialis* (Rough Meadow Grass).







## ZEIRAPHERA HASTIANA.

ORDER Lepidoptera.

FAM. Tortricidæ.

*Type of the Genus, Tortrix communana Linn.*

ZEIRAPHERA Treit., Curt.—Ephippiophora and Penthina Goda.—Tortrix Hüb., Haw.

*Antennæ* inserted close to the eyes, on the crown of the head, short and setaceous, clothed with scales above, pubescent beneath, basal joint stout, ovate and scaly (1).

*Maxillæ* spiral, rather stout, and not longer than the palpi (3).

*Labial palpi* porrected horizontally, parallel, densely clothed with scales (4), triarticulate (*a*), basal joint short and cleaver-shaped, 2nd long, stout, incrassated towards the extremity, densely clothed with scales, which make it thick at the apex, 3rd joint not concealed, clothed with short scales, nearly as long as the 1st, slender and elliptical.

Head small, the crown and forehead densely clothed with longish nearly erect scales, those on the face depressed (7, the profile): eyes globose. Thorax subglobose. Abdomen with the apex slightly tufted in the males, conical in the females. Wings perfectly deflexed in repose, longer than the body; superior with the costa slightly arched, the extremity truncated and rounded; inferior ovate-trigonal, the apex a little narrowed and rounded. Legs, anterior very short, hinder the longest: thighs short: tibiæ, anterior very short with an internal spine; intermediate with a pair of spurs at the apex, one very long, hinder stoutish and hairy inside, with 2 pair of long unequal spurs, one pair at the middle: tarsi 5-jointed, basal joint elongated (8†, the hind leg).

Larvæ with 6 pectoral, 8 abdominal and 2 anal feet?

HASTIANA Linn.—Curt. Guide, Gen. 952. 1.

Dark brown: head somewhat ochreous, face whitish: superior wings rich brown, variegated with blackish spots and streaks, a broad white slightly oblique fascia before the middle, with an indenture on the inside, and sinuous externally; beyond it are several dull purplish or lead-coloured patches, surrounded by scales white in certain lights, and there is a row of dull orange spots at the posterior margin, and 3 pale or whitish costal spots towards the apex, which bears a black dot with a semicircle of white scales: inferior wings orange with a purplish cast, and minutely freckled with fuscous. In the male the white fascia is very narrow, and sometimes broken into spots.

*In the Cabinets of Mr. Dale, the Author, &c.*



THIS group so nearly approaches *Penthina*, *Spilonota*, &c. on one side, that there is little to distinguish them excepting the style of colouring on the superior wings; and on the other hand *Zeiraphera* is closely allied to *Grapholitha*. The scales on the palpi are long, and make them heavy in appearance; the depressed scales on the face give the head a somewhat different character to the other genera, and the upper pair of spurs on the hinder tibiæ are placed at the centre in the type. The following are British species.

1. *Hastiana* Linn.—Curt. Brit. Ent. pl. 711 ♀.—*ulmana* Hüb. 45. 278 ♂.—*areolana* Hüb. 279 ♀.

29th May, near Exeter; 28th June, Devon, Mr. Cocks. The figure referred to by Linnæus in Clerck's *Icones* has pectinated antennæ, and is evidently a different insect, as well as Hübner's *hastana*; yet I have little doubt that ours is the Linnæan insect, the sexes of which Hübner seems to have considered as belonging to two species. Not having a specimen for dissection, I cannot be positive that it belongs to this genus, but it appears to be allied to the following species.

2. *perfuscana* Haw. 467, 231. Wood's fig. 1007 does not agree with Haworth's description.

This and the 3 following species, if I mistake not, are found on the flowers of umbelliferæ at Darent, Mickleham, &c.

3. *pustulana* Hüb. 33. 208. is the *T. subsequana*, Haw.

My specimen may be only a variety of the foregoing species.

4. *Lediana* Linn.—Wood, pl. 31. f. 934.

June, Norfolk, Darent and the New Forest.

5. *nitidana* Fab.—Wood, 31. 935.

Hedges, end of May and June, Darent and New Forest.

6. *Strobilella* Linn.—*argyrana* Hüb.? 8. 46.

Beginning of May, hedges.

7. *fraternana* Haw.—*strobilella* Wood, 31. 917?—*Strobilana* Hüb. 12. 70 ♂.

Amongst fir-trees, 14th July, in Black-wood, Loch Rannoch.

8. *atromargana* Haw. 446. 165. Wood, 31. 916.

Trunks of oaks, beginning of June, Kensington gardens, and woods round London.

9. *communana* Fab.—Wood, 34, 1029.—*corticana* Hüb.—*Lichenana* Treit.

June, in abundance on trunks of oaks, Kensington gardens, &c.

The plant is *Dipsacus sylvestris*, Wild Teasel.





## ANCHYLOPERA USTOMACULANA.

## The Loch Rannoch Tortrix.

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ORDER Lepidoptera. FAM. Tortricidæ.

*Type of the Genus, Pyralis Lundana Fab.*

ANCHYLOPERA Ste., Curt.—Tortrix Hüb., Haw.—Pyralis Fab.

*Antennæ* inserted close to the anterior margin of the eyes, rather short and capillary, composed of numerous cup-shaped joints, clothed with long dilated and hairy scales (1, a).

*Maxillæ* short, slender, and spiral (3).

*Labial Palpi* porrected nearly horizontally, very scaly and truncated, triarticulate, basal joint robust, curved, slender at the base, 2nd very long and stout, dilated towards the apex, 3rd joint nearly as long as the 1st, very slender and pointed, but nearly concealed by the scales of the antecedent (4 and 4 a).

Head *small, the crown tufted, the scales combed forward. Ocelli distinct. Thorax and Abdomen slender, the latter obtuse and tufted at the apex, in the males. Wings; superior slightly falcated (9). Legs rather stout. Coxæ; anterior long. Thighs rather short. Tibiæ; anterior very short, intermediate with unequal spurs at the apex; posterior long and hairy, with a pair of unequal spurs at the middle, and another pair at the apex (8†).*

Caterpillars with 6 pectoral, 8 abdominal, and 2 anal feet.

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USTOMACULANA Curt. *Guide, Gen.* 955. 12.

Fuscous; tips of palpi, face and crown of thorax whitish: superior wings deep brown, the base glossy cinereous, with 6 or 7 cleft marks on the costa of the same colour, the 3rd continued to the anal angle, leaving an oblique brown fascia across the centre, dilated at the middle, the margins sinuated; a large subtrigonal mark on the internal margin silvery grey, some smaller irregular markings of a similar colour towards the posterior margin, and a black spot at the apex.

*In the Cabinets of Mr. Dale and the Author.*

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THE falcate tip of the superior wings and the large subtrigonal or semiovalate macula on their internal margin, are the distinguishing characters of this genus, but some of the species are destitute of the latter. The name is an adopted one, and the genus not established; I have transferred some of the species it contained to another genus formed by the same party, as they do not appear to belong to this group, which will probably form a division of Treitschke's genus *Phoxopteris*.

The following are British species.

1. *A. obtusana* *Haw.* 453. 189.

Inhabits woods near London.

2. *A. consobrinana* *Curt. Guide, No. 2.*

A little larger than No. 1, but very similar to it, and may be only the female: the superior wings are narrower, and the silvery line across the middle is more arcuated and oblique. I took a specimen in Coombe Wood.

3. *A. unculana* *Haw.* 453. 188.—*derasana* *Hüb. Tort.* 32. 206.

In woods near London.

4. *A. Lundana* *Fab.—Don.* 11. 374. 1.—*Corylana* *Hüb.* 9. 53.

Middle of May, Coombe Wood and near Kimpton.—J. C.

5. *A. Lyellana* *Curt. Guide, No. 5.*

As large as No. 6, satiny, pale cinereous; collar and apex of the abdomen ochreous: superior wings slightly variegated with pale ochre; on the costa are an oblique macula at the middle, 3 dots beyond and a spot at the apex, dull ferruginous; on the interior margin is the usual large patch of a deep brown and subtrigonal; nearer the anal angle a brown crescent (bearing 5 black lines and dots) which leaves a grey oval macula at the anal angle.

I have the pleasure of naming this very distinct species after my friend Charles Lyell, Esq., who transmitted it to me from Kinnordy in Scotland.

6. *A. fractifasciana* *Haw.* 466. 229.

9th June, amongst heath, sides of hills, Ambleside.—J. C.

7. *A. siculana* *Hüb.* 13. 79.—*Larvæ VII. Tortrices II. Noctuoides F. a.*

Middle of May, amongst rushes on Wimbledon Common.—

J. C.

8. *A. diminutana* *Haw.* 452. 185.

Middle of May and beginning of June, Coombe Wood.—

J. C.

9. *A. funalana* *Ste.*—In Mr. Bentley's Cabinet.

10. *A. uncana* *Hüb.* 13. 76.—*geminana* *Don.* 11. 370. 1.

In Kent and Coombe Wood.—Mr. Chant.

11. *A. ustomaculana* *Curt. Brit. Ent. pl.* 376.

I discovered this nondescript species the 14th June 1825, in the Black Wood of Loch Rannoch.

12. *A. biarcuana* *Ste.*—In the cabinets of Mr. Chant and Mr. Bentley.

This probably may be the same as the last.

The Plant is *Thalictrum flavum* (Meadow Rue-weed).







## PHILALCEA JULIANA.

## Bentley's Marble Tortrix.

ORDER Lepidoptera. FAM. Tortricidæ.

*Type of the Genus, Tortrix ramella Linn.*

PHILALCEA and Anticlea *Step.*—Phoxopteris *Treit.*, *Goda.*, *Curt.*—  
 Ancylis and Epinotia *Hüb.*—Grapholitha and Sciaphila *Goda.*—  
 Tortrix *Linn.*, *Haw.*

*Antennæ* inserted close to the eyes on the crown of the head, rather short, setaceous and composed of numerous joints, scaly above and very hairy beneath (1).

*Maxillæ* spiral, rather stout and membranous, considerably shorter than the labial palpi (3). *Palpi* very minute, biarticulate? terminal joint ovate.

*Labial palpi* rather long and clavate, porrected obliquely, densely clothed with short scales, the apical joint a little visible (4): triarticulate, basal joint short, stout, somewhat securiform, 2nd long, slightly inflated towards the apex, 3rd small obovate, elongated and truncated somewhat obliquely (a).

Head *small, with the scales combed over the crown: eyes small but prominent: ocelli distinct.* Thorax *small.* Abdomen *short tufted in the male; conical and sometimes acuminate in the female.* Wings *subdeflexed in repose; superior elongate, costa generally curved, the apex sometimes slightly falcate: inferior not very ample, with a shallow notch towards the apex.* Legs, *anterior very short: tibiæ, anterior very short, intermediate with a pair of long unequal spurs at the apex (8\*), hinder with 2 pair, one at the middle: tarsi 5-jointed, anterior very short.*

Caterpillars *with 6 pectoral, 8 abdominal and 2 anal feet.*

Obs. *the dissections are drawn from T. bilunana Haw.*

JULIANA *Bent.*—*Curt. Guide, Gen.* 956. 12.

Cream-colour, superior wings gray at the base, the costa ochreous towards the apex, spotted with brown, leaving oblique whitish stripes divided by a dark line, several interrupted brown curved bands at the base, with a dark triangular spot on the interior margin, a lozenge brown mark at the middle of the costa, the posterior portion of the wing ferruginous, forming an irregular line from the apex to the inner margin, a black ovate spot, whitish internally beyond the middle, with another nearer the centre and closer to the posterior margin, which is bounded by a black line, edged with ochre internally and broken by irregular longitudinal black lines, both as well as a smaller one at the anal angle margined externally with silver of a rose or blue tint: disc of thorax and segments of abdomen fuscous, inferior wings the same, with an aureous tinge.

*In the Author's and other Cabinets.*

If the extremes of this pretty group be compared, a considerable difference of form in the upper wings will be discoverable, being slightly hooked in the type, but obtuse in the species figured; yet there is a concatenation amongst them, which

would render their separation unnatural; and whatever may be their arrangement, *P. Juliana* must accompany *P. succedana*, of which I can almost imagine it a fine variety.

The following are British species.

1. *ramella* Linn.—*Goda. pl.* 253. *f.* 2.—*lætana* Fab.—*harpana* Hüb. *Tort. pl.* 13. *f.* 77.

Rare; June, hedges, Darent, Kent.

2. *nigromaculana* Haw. *p.* 436. *n.* 132.

Beginning of August, Tonbridge Wells, and July, Scotland, J. C.; also in Ireland.

3. *nævana* Hüb. 41. 261. June, Birch and Darent Woods.

4. *sociana* Haw. 434. 126.

Middle of June, paling, Shooter's Hill, J. C., and other places near London.

5. *incarnatana* Hüb. ? 30. 191. ♀.—*Amœnana* Hüb. 39. 248. ♂.—*incarnana* Haw.

August, Darent Wood; middle of September, Heaths.

6. *Paykulliana* Fab. ?—Haw. 435. 129.

Winter and end of March, dried leaves in Darent Wood.

7. *bilunana* Haw. 436. 131.—*cretaceana* Goda. 256. 5. *a, b.*

Haworth says on the trunks of Ash-trees, but I always find them sheltered in the deep chinks in the bark of Birch-trees, in Coomb, Birch, and Darent Woods, the beginning of June.

8. *albana* Haw. 436. 133.

This species follows No. 2. in Lep. Brit., to which probably it is most nearly allied; it has been taken in Yorkshire and Darent Wood the end of June.

9. *sesquilunana* Haw. 435. 130.—*fimbriana* Thunb.—*triquetrana* Goda. 249. 3., but not, I think, of Hüb.

June and end of August, amongst Birch-trees in the woods of Surrey and Kent.

10. *subocellana* Don. 11. 380. 1.—*campoliliana*.—Goda. 251. 1.

End of June and beginning of July, hedges round London, particularly in Kent. The Caterpillar lives on the parenchyma of the leaves of a Sallow, is found in the middle of September, and becomes a pupa in a fortnight or three weeks.

11. *succedana* W. V.—Goda. 251. 2.—*Asseclana* Hüb. 30. 194.—*decorana* Haw. 437. 137.

July, Darent Wood; said by M. Duponchel to fly in society.

12. *Juliana* Bent.—*Curt. Brit. Ent. pl.* 583.

I have found this beautiful little Moth twice on a rose-bush in a garden in Suffolk, many years since; it was afterwards taken by Mr. Bentley; and the 22nd of last July I caught a very fine specimen at the base of Turk Mountain near Killarney, which is blacker than the one figured.

*Muscari racemosum* (The Starch-hyacinth) was gathered the end of last April by Dr. Bromfield in abundance, in corn-fields at Cavenham, near Bury, Suffolk, and he kindly communicated the specimen figured.







*Chrysanthemum leucanthemum*

## CARPOCAPSA LEPLASTRIANA.

## The Dover Tortrix.

ORDER Lepidoptera. FAM. Tortricidæ.

*Type of the Genus, Tinca Pomonella Linn.*

CARPOCAPSA Treit., Curt.—Tortrix Linn., Haw.—Pyralis Fab.

*Antennæ* inserted on the crown of the head, close to the eyes, short and setaceous, composed of numerous transverse joints, clothed with scales above, very hairy beneath (1 a).*Maxillæ* short robust and spiral, scaly externally at the base, furnished with projecting glands at the apex (3).*Labial Palpi* recurved, divaricating, clothed with short scales, the terminal joint distinct, slightly oblique, but not horizontal (4); triarticulate, basal joint subclavate curved, 2nd long and curved, slightly thickened towards the apex, 3rd short, elongate-ovate (4 a).

Head densely clothed with shortish scales. Eyes subglobose. Ocelli 2.

Thorax subglobose, covered with decumbent scales. Abdomen sub-linear in the males, ovate-conic in the females. Wings, superior oblong, narrowed a little towards the base, truncated a little obliquely at the apex, the upper angle rounded, and an oval ring near the posterior angle (9). Legs short and robust. Coxæ, anterior long. Thighs rather short. Tibiæ, anterior with a pencil of scales on the inside, intermediate terminated by 2 spines, one very long; posterior incrassated from the base, very scaly on the inside, 2 unequal spurs at the middle and 2 at the apex. Tarsi 5-jointed, basal joint the longest. Claws and Pulvilli minute (8 †, a hind leg).

Caterpillars with 6 pectoral, 8 abdominal and 2 anal feet.

Obs. The dissections are all taken from *P. nigricana* Fab.

LEPLASTRIANA Curtis's Guide, Gen. 957. n. 18.

Very pale ochreous: antennæ, eyes and centre of thorax dark brown: superior wings transversely striated with very fine black waved lines, about 16 white marks on the costa, descending obliquely in ochreous lines, alternating with 5 or 6 dull silvery ones; several double whitish lines arising at the interior margin, two at the middle lengthened and arched; near the posterior angle is an oval silvery ring, the centre ochreous, bearing 3 black dots or lines: cilia metallic black, with an ochreous line entering the wing below the apex: inferior wings brown with a yellowish rosy tint.

*In the Author's Cabinet.*

TREITSCHKE in his 7th volume has given a list of new genera, and amongst them is *Carpocapsa*: it contains only 5 species, but I think the following may very well be included in it. The nervures of the superior wings are very similar to those of *Cnephasia* (pl. 100.), but the outline is very different, and they

are well characterized by a ring, sometimes oval and frequently metallic, placed at the lower angle.

1. *C. Pomonella* L.—*Pomonana* Hüb. 6. 30.

The maggot lives in apples and pears, causes them to fall from the trees, and renders them unfit for use: the moth appears in July.

2. *C. splendana* Hüb. 6. 31.—b. Aug. amongst bushes in Epping Forest and Coomb-wood.

3. *C. grossana* Haw. 438. 139.

4. *C. arcuana* L.—*Don.* 11. 364. 1.—End of June under Oak-trees.

5. *C. Aspidiscana*?—Hüb. 41. 256.

6. *C. Woeberana* F.—*ornatana* Hüb. 6. 32.

The larvæ live either in the wood or under the bark of Plum-trees, doing them great mischief: the moth appears from June to the end of August.

7. *C. Hastana* Hüb. 29. 186.—I have never seen a British specimen.

8. *C. Rheediella* L.—*Don.* 11. 377. 1.—*albersana* Hüb. 35. 224.—M. May, b. June, Coomb-wood.

9. *C. Hypericana* Hüb. 4. 23.—M. May, Coomb-wood.

10. *C. Ulicetana* Haw.—*Zachana* Hüb. 38. 243.—*lanceolana* Hüb. 13. 80. *var.*?—Mar. and end of Aug. Furze on Commons.

11. *C. atropurpurana* Haw. 467. 232.

12. *C. nigricana* F.—Haw. 458. 202.—End of Aug. Hedges.

13. *C. proximana* Haw. 458. 203.

14. *C. ustulana* Haw. 467. 233.—Norfolk.

15. *C. Germana*?—Hüb. 8. 47.

16. *C. stelliferana* Curt.

Yellow cinereous, shining, superior wings with 10 whitish spots on the costa, none at the base, 2 or 3 producing silvery lines; a whitish spot on the interior margin, and another nearer the middle, an indistinct silvery oval near the posterior angle, containing 3 black dots: inferior wings whitish at the base. A specimen taken in Perthshire was presented to me by C. Lyell, Esq.

17. *C. perlepidana* Haw. 458. 206.—April, Hedges.

18. *C. Leplastriana* Curtis's *Brit. Ent. pl.* 352.

The only specimens I ever saw of this handsome moth, I discovered the beginning of July under the Cliff near Dover; it was always concealed amongst the plant figured. I have named it after Mr. Leplastrier, who has made many fine captures of insects near that town.

19. *C. pupillana* L.—*Absinthiana* Hüb. 6. 34.—June, amongst Wormwood, Devon, Mr. J. Cocks.

20. *C. strigana* Curt.

Similar to the next, but smaller and pale ochreous, the superior wings are much shorter and less lanceolate.

21. *C. fulvana* Steph. Curt.—*pupillana* Hüb. 4. 20.

22. *C. cana* Haw. 456.—June and July, pastures, Wrentham, Suff.; Birch-wood, Barton Cliff, Hants, and near Dunkeld.

23. *C. Scopoliana* Haw. 456. 198.

24. *C. rufana* Steph., Curt.

The plant is *Brassica oleracea* (Sea Cabbage).







## BACTRA PAUPERANA.

## The Spotted Drab.

ORDER Lepidoptera. FAM. Tortricidæ.

*Type of the Genus, Tortrix plagana Haw.*

BACTRA Ste.—Aphelia Guide.—Tortrix Hüb., Haw.

*Antennæ* inserted close to the eyes, on the fore part of the crown, setaceous, sometimes short, composed of numerous small joints, scaly above, very hairy beneath, at least in the males (1), basal joint stout.

*Maxillæ* not longer than the palpi, spiral, composed of 2 compressed lobes, pubescent outside at the base (3).

*Labial palpi* rather large, slightly drooping or porrected horizontally considerably beyond the head, appearing very dilated from being densely clothed with scales which perfectly conceal the apical joint (4), triarticulate, basal joint short, hatchet-shaped, being slender and curved at the base, 2nd joint very long and inflated, narrowed at the base, ovate at the extremity, 3rd joint slender, subelliptical, a little longer than the 1st (4 a).

Head *small, rough with scales*: eyes *orbicular*: ocelli 2, *distinct* (7\* head in profile). Thorax *rather small with depressed scales*. Abdomen *short linear and tufted in the male; longer and conical, with a small tuft in the female*. Wings *somewhat decumbent, in repose lying one over the other; superior long, narrow and lanceolate; inferior ovate lanceolate*. Tibiæ, *anterior very short, the others with a pair of unequal spurs at the apex, posterior long with a pair of spurs also a little below the middle, one very long* (8 †): tarsi *long and 5-jointed*.

Economy *unknown*.

PAUPERANA Haw.—Curt. Guide, Gen. 958. 2.

Whitish-ochre; superior wings freckled, with numerous irregular ferruginous rays running obliquely from the costa, which is spotted with black, as well as the interior margin; apex orange tipped with fuscous, with 2 fine black transverse lines and 3 or 4 dots at the base of the cilia; a large subtrigonal brown spot near the base and an elbowed one in the centre: inferior wings and abdomen pale grey; cilia ochreous-white.

*In the Author's and other Cabinets.*

THIS genus makes a near approach to our Cnephasia (fol. 100.), and I have little doubt that the 2 species given as the Ablabia of Hüb. belong to that group, for although they have in some measure the habit of Bactra their trophi agree with those of Cnephasia.

It is very doubtful if the first 4 species be distinct, for 2 of them vary almost *ad infinitum*, and they make so near an approach to each other, that it is difficult to draw the line of separation, although nothing is more easy than to distinguish the marked type of each.

\* BACTRA. Palpi horizontal, apical joint concealed.

1. *egenana* Haw. p. 469. n. 241.

"Superior wings dull reddish, with a few very minute fuscous dots at the posterior margin; inferior whitish fuscous. Expanse  $7\frac{1}{2}$  lines."

Middle of May, Coomb Wood.

2. *pauperana* Haw. 242.—*lanceolana* Hüb. 13. 80. var. ?

"Superior wings reddish fuscous with 2 little obscure fuscous oblong spots on the disc, one before, the other at the centre, with other dots or a fuscous line at the apex and another opposite at the middle of its posterior margin; interior margin irregularly finely and thickly punctured with fuscous; inferior wings fuscous, cilia paler. Sometimes the superior wings are immaculate excepting the inner margin."

Middle of May and beginning of June on rushes in damp places, Coomb Wood, Wimbledon Common, &c.

3. *egestana* Haw. 470. 243.

"Superior wings reddish, immaculate, interior margin black; posterior fuscous, cilia whitish rufous: antennæ small: 7 lines."

End of June, amongst Junci, in moist places.

4. *plagana* Haw. 244.

"Palpi large, very hairy; wings rufous, somewhat obliquely truncated, with a large central black stripe from the base to the posterior margin:  $7\frac{1}{2}$  lines."

Middle of May, Coomb Wood; beginning of July, Thetford Warren.

\*\* ABLABIA Hüb. Palpi incurved, apical joint apparent.

5. *expallidana* Haw. 469. 240.

"Entirely pale, shining, tinged with yellow towards the costa: palpi curved downward: 6 lines."

6. *Cantiana* Curt. Brit. Ent. v. 3. fol. 100. n. 9.

Superior wings satiny, pale cinereous, with 3 whitish flames at the base, viz. the costa, inner margin and a central one forming a whitish line extending to the middle of the cilia, with an obscure fuscous lunule and a few black dots beyond the middle:  $9\frac{1}{2}$  lines.

Beginning of July, Thetford Warren; August, Darent, Dover, upon grass and rushes; ascending Goatfield and at Lulworth, Mr. Dale.

7. *quadripunctana* Haw.—*pratana* Hüb. 36. f. 227. & 228.

Superior wings reddish brown ochre, dotted with black towards the apex, 3 pale flames at the base with a long blackish streak nearly reaching the middle, and a lunule beyond it, 2 large dusky spots near the inferior margin, one towards the base, the other nearer the hinder angle:  $11\frac{1}{3}$  lines.

Middle and end of July, rushy and springy places ascending Ben Lawers and Craigcalloch.

The Plant is *Scirpus* (*Eleocharis* Br.) *palustris* (Marsh creeping Club-rush).







## CNEPHASIA BELLANA.

## The Northern Cnephasia.

ORDER Lepidoptera. FAM. Tortricidæ *Leach*.

*Type of the Genus Tortrix Logiana Linn.*

CNEPHASIA *Nobis*. Phalæna Tortrix *Linn.* Pyralis *Fab., Lat.*  
Tortrix *Hüb., Haw., Leach.*

*Antennæ* inserted near the crown of the head close to the eyes, rather thickest in the middle, having a serrated appearance, composed of numerous quadrate joints covered with short scales and hair above, pubescent beneath (fig. 1, and 1 a).

*Maxillæ* scarcely longer than the palpi (3).

*Palpi* 2, porrected, completely covered with scales, 3-jointed, 1st curved upward, short, 2nd long clavate, with very long scales on the upper surface, 3rd short linear (4, and 4 a).

Head with a tuft of scales upon the crown (7). Abdomen robust and tufted at the apex, especially in the females. Wings when at rest forming an elongated triangle, superior of the males narrower towards the base than in the females, somewhat lanceolate, and generally rounded at the apex (9 showing the nerves). Legs rather slender, anterior with the 1st joint of the tarsus nearly as long as the tibia (8 a); posterior with the femur short. Tibia very long, with 2 spines near the centre and 2 at the apex. Tarsi all 5-jointed, the basal joint being equal in length to the remainder.

Caterpillars with 6 pectoral, 8 abdominal, and 2 anal feet?

BELLANA *Nobis*.

*Male* hoary. *Antennæ*, eyes, and anterior legs blackish, the latter annulated with white. Superior wings with an angulated fascia near the base, an oblique one in the middle, and another imperfect one near the apex grayish black, variegated and spotted with intense black, 4 spots upon the costa near the apex and minuter ones on the interior margin and between the fasciæ grayish black. Inferior wings silvery gray, cinereous and obscurely reticulated towards the margins. Cilia silvery, tinged with ochraceous. Abdomen silvery, ochraceous at the apex. *Female* with the markings bolder and the black more intense on the superior wings, with an irregular row of black spots near their posterior margin.

*In the Cabinets of Mr. Dale and the Author.*

HAVING had the good fortune to add two nondescript species to this natural group in my late visit to Scotland, it has been thought advisable to form it into a genus. When at rest the



wings of these insects are folded very differently to the *Tortricidae* generally, bearing a stronger resemblance to the *Crambi*, which they will probably connect with the former family by means of *Chilo* passing through the *Inopianæ* of Haworth, being connected with the other *Tortrices* by means of his group *Fasciariæ*: the lanceolate wings, the slender anterior legs, and the bars of the superior wings, which may be traced even in the 8th species, are other important characters.

1. *Cnephasia bellana* Nob.
2.               *octomaculana* Haw. MSS.
3.               *interjectana* Lep. Brit.
4.               *Asinana* Hüb.—Lep. Brit.
5.               *Logiana* Linn.—Lep. Brit.
6.               *rectifasciana* Lep. Brit.—*trifasciana* Don. Brit.  
                   *Ins. v. 11. pl. 370. f. 2. 2.*
7.               *longana* Lep. Brit.
8.               *4-punctana* Lep. Brit.
9.               *Cantiana* Nob.

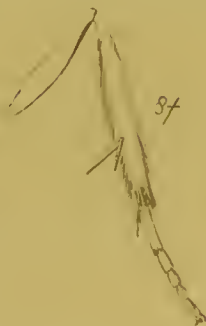
The charming insect, a female of which is figured, is probably in its larva state a lichen feeder; the specimens I found were settled upon the face of the rocks on the left, ascending Arthur's Seat from Holyrood House; and from its similarity of colour to the lichen that is distributed over the rocks was very difficult to detect. It was easily secured, from its indisposition to fly during the day; its generic name signifies 'flying in the dusk'; the female is rarer than the male.

*C. octomaculana* I took on the borders of the Highlands, with so many rare and nondescript species, that I hope soon to have an opportunity of giving an account of them in a form that will be serviceable to entomologists, and induce others to explore the rich mines of the North.

*C. Cantiana* I have never seen except near Dover and at Darent, in the county of Kent, which has induced me to give it the specific name it bears: it is smaller than *C. 4-punctana*, which it most resembles; it is more silvery, nearly plain, and the superior wings are narrower and more acute.

The handsome *Geranium sanguineum* (Bloody Crane's Bill) ornamented the rocks with its beautiful flowers on the spot where the moth was taken.





*Sub. by J. C. Carter July 18. 1*

## ORTHOTÆNIA TURIONELLA.

The orange and silver ribbon Moth.

ORDER Lepidoptera. FAM. Tortricidæ.

Type of the Genus, *Tinea Turionella* Linn.

ORTHOTÆNIA Ste., Curt.—*Tortrix* Haw., Don.—*Tinea* Linn.

*Antennæ* inserted on the crown of the head, close to the eyes, much shorter than the body, capillary, composed of numerous joints, clothed with scales above, pubescent beneath, especially towards the apex; basal joint robust (1 a, basal portion).

*Maxillæ* spiral, shorter than the palpi and very slender (3).

*Labial Palpi* porrected horizontally, thickly clothed with scales, terminal joint very distinct (4): triarticulate, basal joint short, 2nd long robust, and somewhat incrassated near the apex, which is rounded, 3rd joint as short as the 1st, slender subfusiform (4 a).

Head clothed with coarse and loose scales. Eyes subglobose. Thorax smooth, with 2 large lateral lobes. Abdomen rather short and tufted at the apex in the male, conical in the female. Wings, superior rather elongated and narrow, more or less banded with different colours. Thighs slender. *Tibiæ*, anterior very short, posterior long and clothed with long hairy scales, with 2 spines a little below the middle and 2 at the apex. Tarsi 5-jointed, basal joint the longest (8†, hind leg).

Larvæ naked, with 6 pectoral, 8 abdominal and 2 anal feet.

Pupæ rather slender.

TURIONELLA Linn. *Faun. Suec.* 365. 1420.—*Turionana* Haw. 399. 14.

*Curtis's Guide*, Gen. 960. 11.

Shining cinereous-grey. Palpi, head and antennæ yellowish white: thorax and superior wings ferruginous-orange, the latter with 4 transverse, irregular, silvery strigæ, the 2nd and 4th furcate at the costa, the 3rd forming a ring in the centre, also an abbreviated silvery line near to the posterior margin: cilia pale with a blackish line near the base: anterior coxæ and thighs orange.

*In the Author's and other Cabinets.*

THIS Genus has never before been described: although the name *Orthotænia* has been given to a portion of it, I have adopted that appellation, which characterizes the whole very well. I must refer to my *Guide*, which is now completed, for a list of the species and their synonyms; as I am desirous of describing some nondescripts, and giving the localities of others.

1. *O. formosana* *Curtis's Guide*.

Pale fuscous: thorax and superior wings rosy-chestnut, the latter with



a considerable number of waved transverse pale shining lines as far as the middle, beyond which are two more compound ones, with several shorter on the costa, and a row of spots of the same colour at the base of the cilia: abdomen ochreous at the apex.

Similar to *O. nubilana*, Hüb. in size and colour, but the superior wings are a little less obtuse; their colour is very different, and the bar across the middle, formed by the waved lines, is narrower and more irregular.

I believe my specimen was taken by the late Mr. Blunt.

7. *O. alternana* *Curtis's Guide*.

Shining ochreous-grey: thorax and superior wings freckled with black, the latter with 9 pair of pale spots on the costa, the base rather darker, the black spots forming irregular and broken transverse lines; a blackish fascia across the centre freckled with a few pale scales, having a longitudinal pale line across the middle; the apex rather dark ash colour: cilia with a black spot at the tip and middle: inferior wings fuscous.

Smaller than *O. micana*, Hüb., to which it is most nearly allied; the name is given from the alternate dark and pale spaces on the upper wings.

Var.  $\beta$  larger: superior wings more ochreous, the markings brown and less distinct, the cilia immaculate.

On the 14th of July Mr. Dale and myself discovered this moth amongst heath in the Black-wood, Loch Rannoch.

8. *O. gramineana* *Curtis's Guide*.

Head thorax and superior wings ferruginous brown; the latter with 7 or 8 pairs of whitish spots on the costa, with a somewhat silvery sinuated fascia, leaving a dark space at the base; apical portion of the same pale colour, leaving a dark and very sinuated fascia across the middle; the apex, 3 triangular spots on the costa, and an oblique lobe-shaped mark, rising from the posterior margin, and another near that angle, ferruginous brown: inferior wings fuscous.

Most allied to and the size of *O. cespitana*, Hüb. I took it the end of June, on grassy slopes ascending Arthur's Seat.

9. *O. cespitana* *Hüb. Tort.* 244 & 245. 18th June, heath, side of a hill, Ambleside; and 14th July amongst fir-trees, Black-wood, Loch Rannoch.
10. *O. Bentleyana* *Don. 10. pl.* 357. 1.—m. June, Ambleside and Trafford, near Manchester; 11th July on the north side near the top of Schichallien upon the turf amongst the rocks.
11. *O. Turionella* *Linn.—Curt. Brit. Ent. pl.* 364. Bred from the caterpillars which fed on the shoots of the Scotch fir, by Mr. Wigham of Norwich. The larva and pupa are copied from Hübner, but I am not certain whether they belong to this species or to *T. Resinella* L.
12. *O. geminana* *Hüb. Tort.* 269.—e. July and August, pales, Regent's Park, and grass, Birch-wood.
13. *O. arbutana?* *Hüb. Tort. pl.* 31. f. 195.
14. *O. comitana* *Wien. Verz.—Piceana* *Hüb. f.* 72. Common amongst Fir-trees, Birch-wood.
15. *O. Resinella* *Linn.—Turionana* *Hüb.* 220 & 221.
19. *O. purpurana* *Haw.* 400. 16. Taken 15th July.







## COCHYLIS RUPICOLA.

## The Chalk-cliff Tortrix.

ORDER Lepidoptera. FAM. Tortricidæ.

*Type of the Genus, Tortrix rubellana Hüb.*

COCHYLIS Och., Curt.—Tortrix Hüb., Haw., Och.

*Antennæ* inserted close to the eyes on the anterior part of the head, rather shorter than the body, setaceous, composed of numerous joints clothed with scales above, very hairy beneath (1 a). *Maxillæ* rather shorter than the Palpi, formed of 2 filaments (3). *Labial Palpi* nearly horizontal, clavate, thickly clothed with scales, the apical joint slightly apparent (4); triarticulate, basal joint small and clavate, 2nd long stout and ventricose, 3rd short and slender (4 a).

Head clothed with long scales, combed up and meeting on the crown: eyes rather small, orbicular and lateral: ocelli 2. Thorax small and subglobose. Abdomen short and tufted at the apex in the male. Wings, superior somewhat linear and truncated more or less obliquely; inferior somewhat angulated at the apex. Legs, anterior short: tibiæ, middle and posterior furnished with long spurs at the apex, the latter having a pair also a little below the middle (8 †).

RUPICOLA Curt. Guide, Gen. 963. 10.

*In the Author's Cabinet.*

THE following species belonging to this beautiful group have been recorded as British. Many of them fly in the forenoon.

1. Francillana F.—Don. 10. 355. 1.—Baumanniana? Hüb.  
—Tort. 23. 148. ♂.—sanguinea Och.

Middle of July, sides of cliff below Dover Castle, J. C.

2. Smeathmanniana F.—Fabriciana Hüb. 23. 149.

3. straminea Haw. 401. 18.

May, and end of August, pastures, Dover and Yorkshire.

4. alternana Ste.

Middle and end of August, on flowers of Centaurea (pl. 241. and 361.), and flying in the evening on the cliffs near Dover.

5. Dubrisana Curt.

4 to 6 lines broad. Palpi head and thorax griseous; abdomen silky grey; superior wings pale sulphur mottled with shining white and brownish marks, with a somewhat interrupted oblique brown fascia across the middle and another beyond it: inferior wings white, more or less freckled with fuscous towards the apex.—Middle of August, top of cliffs near Dover, J. C.

6. marmoratana Curt.

7 lines broad. Antennæ and palpi blackish, the latter white inside; head thorax and abdomen griseous, the latter white at the apex: superior wings pale sulphur freckled with brown and variegated with shining white spots and lines, leaving two

indistinct oblique fuscous bands, costa spotted with brown : inferior wings fuscous slightly freckled with white, cilia white.—Middle of August, near Dover, J. C.

7. *badiana* *Hüb.* 23. 147 ♀.—*rubigana* *Och.*

June, near Niton, Isle of Wight; end of July, on Burdoch, Battersea Fields.

8. *margaritana* *Haw.* 401. 21.

9. *griseana* *Haw.* 402. 25.

10. *Rupicola* *Curt. Brit. Ent. pl.* 491 ♂.

Ochreous, superior wings with an oblique ferruginous brown band across the middle, darkest towards the extremities, with a pale edge on both sides towards the interior margin, where it forms an indistinct triangular spot, the costa spotted with black, and the posterior portion of the wing ferruginous-ochre freckled with black: inferior wings blackish with a cupreous tinge; the cilia ochreous, blackish at the base: abdomen blackish with an ochreous tuft in the male.—Middle of July, side of cliff, Dover, J. C.

11. *subroseana* *Haw.* 402. 23.

Middle of May, in abundance amongst grass on the east side of the Isle of Portland; 9th of June, amongst heath, side of mountain near Ambleside.

12. *rubellana* *Hüb.* 46. 285—287. ♂ ♀.—*roseana* *Haw.*

Dover, Mr. Leplastrier.

13. *ruficiliana* *Haw.*—*ciliella*? *Hüb. Tin.* 26. 180.

End of May, meadows, Yorkshire.

14. *Baumanniana* *F.*—*Hartmanniana* *Hüb.* 23. 146. ♀. *var.*

Middle of June, amongst fern, side of hill, Ambleside; end of June, chalk-pit, Darent.

15. *Lathoniana* *Hüb.* 30. 189. ♀.—Is this British?

16. *Sodaliana* *Haw.* 436. 134.

17. *dubitana* *Hüb.* 12. 71.

Discovered by H. Walker, Esq., at New Lanark.

19. *maculosana* *Haw.* 438. 141.

Middle of May, Kimpton; and beginning of July.

20. *angustana* *Hüb.* 12. 74.—*fasciella* *Don.* 13. 452.

Beginning of July, hedges; end of August, heathy places near Lyndhurst, Dover, and North Wales.

21. *pygmeana* *Haw.* 439. 143.—B. of June, Suffolk, J. C.

22. *nana* *Haw.* 439. 142.—July? broom fields.

23. *tesserana* *W. V.*—*tesselana* *Hüb.* 23. 144.—*Heiseana* *F.*

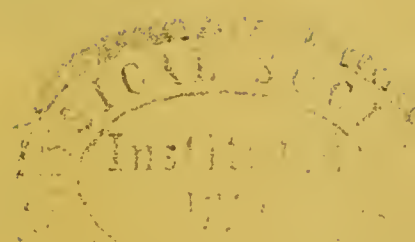
Beginning of June, Barton Cliff, Hants, Isle of Portland, and sides of cliff, Dover.

*C. decimana* *Hüb.* 23. 145. *var.*?

Middle of May, Coomb Wood, Surrey.

24. *ænea* *Hüb.* 30. 188.

The Plant is *Daucus Carota* (Wild Carrot).







*in fig. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.*

## TERAS EXCAVANA.

The iron Notchwing.

ORDER Lepidoptera.

FAM. Tortricidæ.

*Type of the Genus, Pyralis caudana, Fab.*TERAS *Treit., Dupch., Curt.*—*Pyralis, Fab.*—*Tortrix, Hüb., Haw.*

*Antennæ* inserted close to the eyes on the crown of the head, shorter than the body, setaceous, composed of oblong joints, scaly above, pubescent beneath (1).

*Maxillæ* scarcely so long as the palpi, spiral, rather stout, with short tentacula at the apex (3).

*Labial palpi* rather long, protracted far beyond the head, parallel, clothed with short scales which make the 2nd joint convex above and leave only a small portion of the apical joint apparent (4); triarticulate, basal joint short, cleaver-shaped, 2nd very long, stout and somewhat clavate, straight beneath, convex above from the middle, the base slender, the apex narrowed; 3rd joint about  $\frac{1}{3}$  as long, elliptic-conic (a).

Head short, densely scaly: eyes hemispherical. Thorax subglobose.

Abdomen subdepressed; linear in the male, with a tolerable tuft at the apex; trigonate and scaly at the apex in the female. Wings very slightly deflexed in repose, forming an elongate triangle; superior hooked at the apex, the costa very much arched with a large notch at the middle: inferior harp-shaped; cilia moderate. Legs stoutish: thighs, middle pair the longest: tibiæ, anterior short, with an internal spine, intermediate with a pair of spurs at the apex, one very long; hinder tibiæ the longest and stoutest, with unequal spurs at the apex, and a pair a little below the middle: tarsi rather short and 5-jointed, basal joint very long, 4th and 5th very small: claws and pulvilli minute (8†).

Metamorphoses unknown.

EXCAVANA *Haw. Lep. Brit.* 408, 44.—*Curt. Guide, Gen.* 965. 2.

*In the Author's and other Cabinets.*

THE moths forming this natural little genus are usually of the same size, and I think it not improbable that the 2nd and 4th are only varieties of the preceding species. They are all well characterized by the curious excavation of the anterior margin of the superior wings; they are principally found in the early part of autumn, by the sides of pathways in woods.

1. *T. emargana* *Fab.*—*Wood*, *pl.* 36. *f.* 1103.

Superior wings ochreous, reticulated with brown, the posterior half brown with ochreous spots towards the apex.

July 31st, by an ozier hedge at Niton in the Isle of Wight, J. C.; also in the New Forest; woods near Dover, Northumberland and Scotland in August.

2. *excavana* *Haw.*—*Wood*, *f.* 1104.—*emargana* *Don.* v. 3. *pl.* 106. *f.* 5.

Ferruginous-orange; superior wings obscurely reticulated with brown, with 2 waved strigæ towards the base, an ash-coloured fascia passing obliquely across the middle, sinuated on both sides and bearing a few minute tufts of scales, the same colour continued along the margin of the notch; base of cilia lead-colour: abdomen subochreous, deepest at the apex: inferior wings greyish-white, somewhat ochreous and reticulated towards the apex.

*Obs.* Many specimens are much darker than the one figured, but Donovan's drawing is very indifferent, and I know of no figure of it in any Continental work.

August, Caen-wood, Hampstead; Coomb-wood, Surrey; Birch and Darent woods, Kent; beginning of September, by an ozier hedge, Niton, and New Forest, J. C.; Raehills, Dumfriesshire, Rev. W. Little.

3. *effractana* *Frol.*—*Wood*, *fig.* 1105.—*emargana* *Don.* 3. 106. 1.

Superior wings ochreous-grey, clouded, the inferior margin sometimes ferruginous, with a deep notch on the costa.

End of August, Caen, Coomb, and other woods round London; beginning of September, ozier hedge, Niton, and New Forest, J. C.

4. *caudana* *Fab.*—*Wood*, *fig.* 1106.—*ochracea*, *Ste.* *var.*

Superior wings pale ochreous-grey, clouded, with a shallow notch on the costa.

Found in Yorkshire and other northern counties in August.

I have not referred to Hübner, for if Treitschke's criticisms be correct, the names of the two last species are transposed in the work of the former author.

The plant is *Campanula latifolia*, Giant Bellflower, for which I am indebted to T. C. Heysham, Esq., of Carlisle.







## LEPTOGRAMMA IRRORANA.

## The Sprinkled Rough-wing.

ORDER Lepidoptera. FAM. Tortricidæ.

*Type of the Genus, Tortrix litterana Linn.*LEPTOGRAMMA Curt., Ste.—Paramesia Ste.—Tortrix Hüb., Haw.—  
Pyralis Fab.—Phalæna Tortrix Linn.*Antennæ* inserted close to the eyes on the crown of the head, rather short, setaceous, clothed with scales above, pubescent beneath, composed of numerous short joints rather longer and oblong towards the apex, basal joint robust and long, 2nd larger than the following (1, portions of the base and apex).*Maxillæ* as long as the labial Palpi, spiral, rather stout, ciliated at the base, with series of tentaculi at the apex (3). *Palpi* minute attached to a scape, biarticulate, basal joint producing a few hairs on the inside (3, base of maxilla, a the Palpus).*Labial Palpi* porrected horizontally, rather divaricating, clavate, thickly clothed with short scales, the apical joint being visible (4), triarticulate, basal joint not short, curved and clavate, 2nd long robust and ventricose, 3rd shorter than the first, slender elongate-conic (4 a).*Head* rather small, the scales on the crown erect: eyes lateral and globose (7). *Thorax* globose, trigonate behind. *Abdomen* rather short and narrow, depressed and tufted at the apex in the males. *Superior wings* oblong-trigonate, costa produced at the base, densely clothed with scales forming a shoulder at the middle, posterior margin truncated, the apex slightly acute, posterior angle rounded, the surface more or less clothed with small tufts of scales; *inferior wings* ample, the margin slightly undulated, the apex a little pointed; cilia long at the anal angle. *Legs*, anterior small; tibiæ, anterior very short, with a small spine on the inside, middle pair spurred at the apex; posterior long with unequal spurs at the middle and apex: tarsi 5-jointed, basal joint long: claws and pulvilli small (8, a fore leg, 8† the hinder leg).*Caterpillars* with 6 pectoral, 8 abdominal, and 2 anal feet?

IRRORANA Hüb. Tort. pl. 15. f. 96.—Curt. Guide, Gen. 966. 4.

Pale dull green; eyes blackish, antennæ dull gray; abdomen ochreous gray, base of the segments fuscous: superior wings with numerous black spots, 5 or 6 in a line towards the posterior margin, with a line of black lunules between the nervures at the base of the cilia and a black dot at the apex of each: inferior wings ochreous gray, mottled: cilia pale ochreous, fuscous at the base.

*In the Author's and other Cabinets.*

THIS pretty genus is most nearly allied to *Peronea*, but in the typical species the superior wings are not hooked at the apex; they are studded with tufts of scales, and the apical joint of the palpi is not concealed. In dissecting I discovered *maxillary*

*palpi*, which I believe were not known to exist in the family to which our genus belongs; but I have not had an opportunity of ascertaining if they be equally developed in neighbouring groups.

The following are British species.

1. *L. literana* L.—*Don.* v. 10. *pl.* 355. *f.* 2.—*Hüb. Tort. pl.* 15. *f.* 89. & 90.—*f.* 91. *var.*?—April, end of Aug., September, and beginning of October; Oaks, New Forest, and Glanville's Wootton, Mr. Dale.
2. *L. squamana* F.—*Don.* 5. 157. 7.—*squamulana* *Hüb.* 15. 94.—92. & 93. *vars.*?—End of August, beginning of September, in Orchards and on Oaks covered with Lichen, J. C.—End of September, beginning of October, White-thorns, Mr. Dale.
3. *L. tricolorana* Haw.—*irrorana* *Hüb.* 15. 95.—September, Oaks and trees covered with Lichen, J. C.—Beginning of October, Apple-trees, Dorset and North Devon, Mr. Cocks.
4. *L. irrorana* *Hüb.*—*Curt. Brit. Ent. pl.* 440.—Glanville's Wootton and Devon, Capt. Blomer.
5. *L. fulvomixtana* Ste.—New Forest and Glanville's Wootton, Mr. Dale.
6. *L. scabrana* F.—*irrorana* *Hüb.* 15. 97.—In woods.

Genus *PARAMESIA* Ste.

7. *L. cernsana* *Hüb.* 11. 63.—I have never seen but two specimens of Hübner's insect, which were taken in the New Forest; the one generally seen under that name is a larger insect, exceedingly like *L. scabrana*, only the upper wings are cream-colour: it is found the end of July amongst Elms.
8. *L. tripunctana* *Hüb.* 20. 129.—*tripunctulana* Haw.—End of July, Glanville's Wootton, Mr. Dale; September, pathways in woods.
- 8<sup>a</sup>. *L. aspersana* *Hüb.* 41. 259.?—Middle of August, New Forest, and amongst grass, South Foreland, Dover, J. C.—July and August, on Juniper and coarse grass, Winandermere; Gryme's Dyke, Oxon; Portland, about the *Rosa spinosissima*, Mr. Dale. I doubt if it be Hübner's insect.
9. *L. bifidana* Haw. 418. 77.—Sept., hedges and open places in woods; middle of October, Dorset, Mr. Dale.
10. *L. Gnomana* L.—*notana* *Don.* 11. 369. 3. *var.*—*Steineriana* *Hüb.* 27. 170. I believe to be another species. March, amongst dried leaves; middle of June, end of July, Sept., and October, open places in woods at Coombe, Darent, Glanville's Wootton, and Wittenham, Berks, Mr. Dale.
11. *L. subtripunctulana* Ste.—North Devon, Mr. Cocks.

The Plant is *Anagallis tenella* (Bog Pimpernel).





*Drawn by J. G. Rees London April 1 1894*



## PERONEA RUFICOSTANA.

## Rufous-margined Button Moth.

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ORDER Lepidoptera. FAM. Tortricidæ *Leach.*

*Type of the Genus P. Cristalana Don.*

PERONEA nob. *Pyralis Fab., Lat. Tortrix Hub., Haw., Leach.*

*Antennæ* inserted on the crown of the head near to the eyes, rather thickest in the middle, having a serrated appearance under a lens, composed of 50 joints or more, hairy with a few scales, first joint cylindric, second smaller, nearly globular. (1.)

*Maxillæ* as long as the palpi. (3.)

*Palpi* 2, completely covered (when perfect) with scales, and hairy at the margins and apex (4.); first joint short, clavate; second very long, dilated in the middle; third joint slender, half the length of last (4. a. the scales being removed to show the articulations).

*Wings* rounded at the base, appearing ciliated on the costa, either with small tufts of scales, or with one large tuft in the centre of the upper wing. (9.)

Anterior legs with the first joint of the tarsus nearly as long as the tibiæ; coxa nearly as long as the femur. (8. b.) Posterior legs; femur short (8. b.), tibia long, with 2 spines in the centre and 2 at the apex (8. a.), all the tarsi 5-jointed. Caterpillars with 16 feet?

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RUFICOSTANA nob.

Upper wings dull violaceous, yellowish white at their interior margins, a mark of chesnut, darkest in the middle, extending obliquely from the base nearly to the apex; a very minute tuft of bright ferruginous scales near the centre; and an interrupted line of spots parallel with the posterior margin; cilia rufous. Head, palpi and thorax white. Abdomen and inferior wings fuscous.

*In the Cabinet of Mr. Stone.*

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THE genus *Tortrix*, containing at present upwards of 250 British species, may with propriety be considered a family; and as it is composed of numerous natural groups, it will be found impossible clearly to understand them unless they are formed into genera: with this object in view, I have proposed the genus *Peronea* (which is derived from the Greek, and signifies a button), and divided it into those with a large elevated tuft of scales in the centre of the upper wings, the others having small tubercles only dispersed over them. The follow-



ing arrangement of the species may be acceptable to those who have a collection of this beautiful genus, and will enable me to explain the affinities of the neighbouring groups when they come under consideration. I have carefully examined the palpi of every individual, and have to regret that many of the species have only manuscript names, (all of which are printed in italics,) an inconvenience which it is hoped will soon be superseded by the completion of Mr. Haworth's *Lepidoptera Britannica*, which it is understood will contain a Supplement in which all the new species will be described.

#### PERONEA

|                               |                              |                               |
|-------------------------------|------------------------------|-------------------------------|
| 1 <i>cristana</i> F.          | 15 <i>N. S. ?</i>            | 29 <i>latifasciana</i> Haw.   |
| 2 <i>subvittana</i> Step.     | 16 <i>fulvovittana</i> Step. | 30 <i>N. S.</i>               |
| 3 <i>albipunctana</i> Haw.    | 17 <i>Cristalana</i> Don.    | 31 <i>centrovittana</i> Haw.  |
| 4 <i>striana</i> Haw.         | 18 <i>profanana</i> F.       | 32 <i>combustana</i> Hub.     |
| 5 <i>N. S.</i>                | 19 <i>N. S.</i>              | 33 <i>albistriana</i> Haw.    |
| 6 <i>consimilana</i> Step.    | 20 <i>brunneana</i> Step.    | 34 <i>umbrana</i> Hub.        |
| 7 <i>vittana</i> Step.        | 21 <i>eximiana</i> Haw.      | 35 <i>ramistriana</i> Haw. ?  |
| 8 <i>substriana</i> Step.     | 22 <i>Byringerana</i> Hub.   | 36 <i>divisana</i> Hub.       |
| 9 <i>spadiceana</i> Haw.      | 23 <i>N. S.</i>              | 37 <i>radiana</i> Hub.        |
| 10 <i>N. S. ?</i>             | 24 <i>autumnana</i> Hub.     | 38 <i>strigana</i> Step.      |
| 11 <i>fulvocristana</i> Step. | 25 <i>plumbosana</i> Haw.    | 39 <i>ruficostana</i> nob.    |
| 12 <i>albovittana</i> Step.   | 26 <i>Boscana</i> F.         | 40 <i>bistriana</i> Haw.      |
| 13 <i>sericeana</i> Hub.      | 27 <i>subcristana</i> Step.  | 41 <i>similana</i> Step.      |
| 14 <i>N. S. ?</i>             | 28 <i>N. S. ?</i>            | 42 <i>albicostana</i> , Step. |

*Tortrix favillaceana*, *asinana*, and *tristana*, would follow *P. Byringerana* very well, but the last joint of the palpi is not concealed, otherwise they agree both in the proportion and form of the joints; and I suspect, if we admit these 3 species, that *T. logiana*, *Schalleriana*, *rufana*, *borana*, *Asperana* and *variegana* must be admitted also.

The unique and nondescript species figured (the natural size of which is given with the dissections) was beat from out the white-thorn, at the end of September 1823, in the New Forest, and is now in the cabinet of Mr. Stone, whose unrivalled collection of this family I have been allowed to examine at my leisure, and through whose liberality I am enabled to give dissections of this rare and valuable genus.

These insects conceal themselves in the *Lichen parietinus* (figured in the plate) when it grows upon the white-thorn, and have nearly all been taken at Darent and Coombe Woods, and in the New Forest, from the end of September to November, and even during January and February occasionally.





*Painted by J. Curtis London July 1 1824*

## SARROTHRIPUS RAMOSANA.

## Branched Sarrothripus.

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ORDER Lepidoptera. FAM. Tortricidæ *Leach.*

*Type of the Genus T. degenerana Hub.*

SARROTHRIPUS *nob.* *Pyralis Fab., Lat. Tortrix Hub., Haw., Leach.*

*Antennæ* inserted on the crown of the head near to the eyes, long, setaceous, composed of numerous oblong joints, covered with scales above; first joint rather large, cylindric, curved, second small. (f. 1.)

*Maxillæ* nearly thrice the length of the Palpi. (3.)

*Palpi* 2, porrected far beyond the head, completely covered with scales resembling hair (4.); first joint short, curved upwards; second joint long, clavate, curved at the base; third joint as long or longer than the second, nearly filiform, slender. (4. a. the scales being removed.)

Head with the scales upon the crown projecting forward in front. (7.)

Wings rounded at the base, appearing slightly ciliated on the costa.

Anterior legs with a long brush of hairy scales on the interior sides of the femur and tibia. (8.) Intermediate legs the longest. Posterior legs with 2 moveable spines in the centre of the tibia, and 2 at the apex. Tarsi 5-jointed, terminated by small claws. Caterpillars with 16 feet?

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RAMOSANA *Hub. Schmet. Tort.*

Fuscous: Head, palpi, anterior part of thorax, and a great portion of the upper wings brunneous inclining to chesnut. Superior wings with a dark line branched at the base and on its inferior margin, above which towards the centre is a black spot, a row of dots extend along the posterior margin, and 3 fuscous ocellated spots, with others more obscure, form an irregular transverse line near the same margin.

*In the Cabinet of Mr. Stone.*

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IN the 16th folio was described the Genus *Peronca*, and from the same family a small group, which has always been arranged near to them, has been selected for the present subject; it is called *Sarrothripus*, from the brushes of hair which are attached to the fore-legs. By referring to *Lepidoptera Britannica*, p. 406, it will be seen that Mr. Haworth has in some degree



anticipated me in the formation of this Genus, which contains his division *Palpanæ*: a doubt is there expressed whether they may not be varieties; but the numerous specimens which have since that time been collected leave little room for such a conjecture, and the addition of the novelty figured (the only one not described in the valuable work alluded to) renders it still more probable that they are distinct.

The present Genus, on comparison with *Peronea*, will show how little attention has been paid to the conformation of the *Lepidoptera*; such differences in any of the other orders would have been detected long since; but I hope by the dissections with which I shall always illustrate the subjects, that I may be able to interest entomologists sufficiently to induce them to attend to the structure of this beautiful order.

The following are the species contained in this Genus:—  
1. *S. degenerana* Hub. 2. *dilutana* Hub. 3. *Afzeliana* Gmelin.  
4. *Lathamiana* Gmelin. 5. *punctulana* Hub. *Ilicana* Fab.  
6. *ramosana* Hub. They have been found at different periods of the year at Darent and Birch Woods, Kent, and in the New Forest. The rare and beautiful species, figured from the collection of Mr. Stone, was beat off a tree in July 1823, at Birch Wood, and another was taken off paling there, which induced me to think, that like *Peronea* they might be attached to Lichens, but we are completely ignorant of their economy.

*Lichen prunastri* (Plum-tree Lichen), growing upon a branch of a tree, is figured in the Plate.







## NOLA MONACHALIS.

The small Black-arches.

ORDER Lepidoptera. FAM. Pyralidæ.

*Type of the Genus, Tinea cucullatella Linn.*NOLA Leach, Curt.—Hercyna Treit.—Chlamifera and Bombyx Hüb.—  
Pylalis Hüb., Haw.—Phalæna Tinea Linn.*Antennæ* inserted close to the eyes on each side the crown of the head, moderately long, composed of many joints scaly above, basal joint large globose and clothed with long scales forming a long brush on the inside, 2nd globose, the remainder oblong, each producing 2 pilose branches at the base in the male (1 ♂); simple in the female (♀).*Maxillæ* a little longer than the Palpi, slender and spiral (3).*Labial Palpi* large, porrected horizontally or rather drooping, parallel robust and densely clothed with scales (4); triarticulate, basal joint short, 2nd very long and ventricose, 3rd minute ovate (4a).*Head clothed with scales. Eyes small, lateral and prominent. Thorax small globose. Abdomen short and rather stout in the females. Wings entire, superior sublanceolate with 3 elevated tufts in a line beneath the costa, and covering the inferior when in repose in the form of a triangle. Thighs; middle pair the longest. Tibiæ, anterior very short, with an internal spine, the others spurred at the apex, posterior long ciliated externally, with a pair of spurs also near the middle. Tarsi long, 5-jointed, basal joint the longest. Claws slender and curved.**Caterpillars hairy, with 6 pectoral, 6? abdominal, and 2 anal feet.**Pupæ inclosed in a conical case truncated at one end.*

MONACHALIS Haw. Lep. Brit. 386. 33.—Curt. Guide, Gen. 970. 1.

Cinereous-gray, partially tinged with ochre and freckled with white: palpi brown on the outside; a brown band across the fore part of the thorax, the centre and a dot on each side of the same colour: superior wings with several brown and black spots on the costa, a sinuated and crenated black striga before, and another, more waved, beyond the middle, containing 3 brown spots, 2 of them formed by the inner side of the raised tufts; towards the posterior margin several of the nervures are irregularly streaked with black, and on the margin which is edged with a pale line they are terminated by 7 black dots; cilia dark cinereous with 7 whitish streaks: inferior wings entirely cinereous brown, cilia unspotted.

*In the Cabinets of Mr. Haworth and the Author.*

THESE moths are so nearly allied to the Tortricidæ, that if they did not rest with their wings in a triangle, and the cater-

pillars had 8 abdominal feet, I should associate them with that family and not with the Pyralidæ. Even the cocoon (fig. A.) is very similar to those formed by the larvæ of *Halias clorana* and our genus *Sarrothripus* (pl. 29.). Dr. Leach and Mr. Samouelle have described the palpi with "the 2nd and 3rd joints nearly equally long," which is undoubtedly a mistake.

With the larva and pupa of *Tortrix rugosana* Hüb. I am unacquainted, but the moth seems to be a beautiful connecting link between *Sarrothripus* and *Nola*; the upper wings have the same curious tufts of scales, only greater in number, and the palpi appear to be intermediate.

Three species inhabit England.

1. *N. monachalis* Haw.—*Curt. Brit. Ent. pl.* 428 ♀: the ♂ I have not seen.

Stated to have been taken in the Fens in Yorkshire the end of May. It is very rare, and has never been figured, and it is remarkable that neither of the other species has in any English work that I remember.

2. *N. strigulalis* Hüb. *Pyralides pl.* 3. f. 16.

Palpi and rays of antennæ shorter than in *N. cucullatella*. White variegated and slightly freckled with pale cinereous: thorax with a yellowish brown band across the front: superior wings sublanceolate, costa spotted with black and brown, an angulated black striga before and another more lobed and crenated beyond the middle with a serrated one and 2 of the elevated tufts between them; posterior margin cinereous, variegated with white, the nervures darker with an irregular line or two towards the margin: inferior wings cinereous, palest at the base, with a long spot in the disc, shining through from beneath.

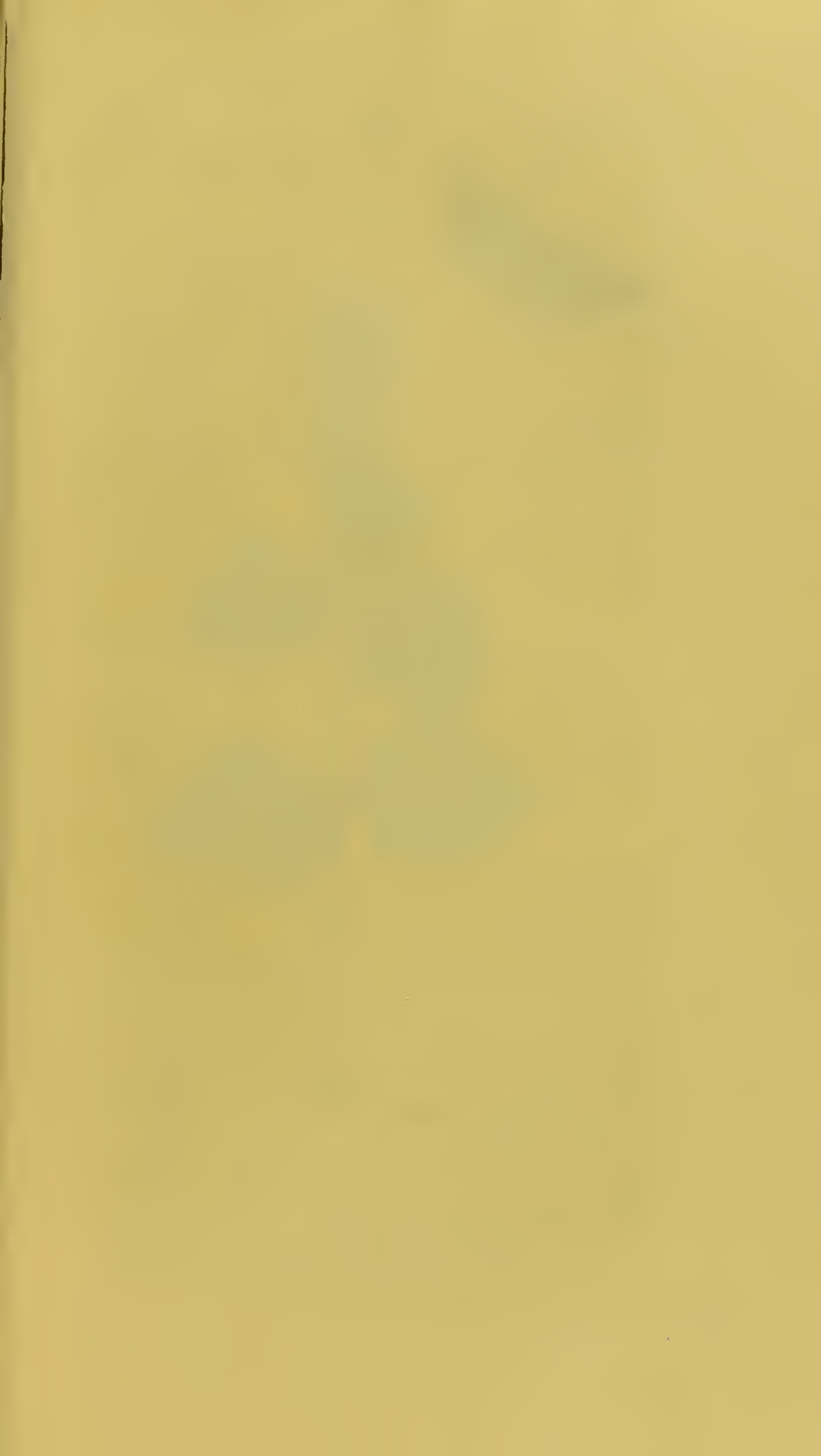
Not uncommon the end of May and beginning of June. In the 3rd volume of Kirby and Spence, p. 230, is an interesting account of the Caterpillar, it is supposed of this Moth.

3. *N. cucullatella* Linn.—*palliolalis* Hüb. *pl.* 23. f. 149 ♀ — *pl.* 3. f. 13 ♂.

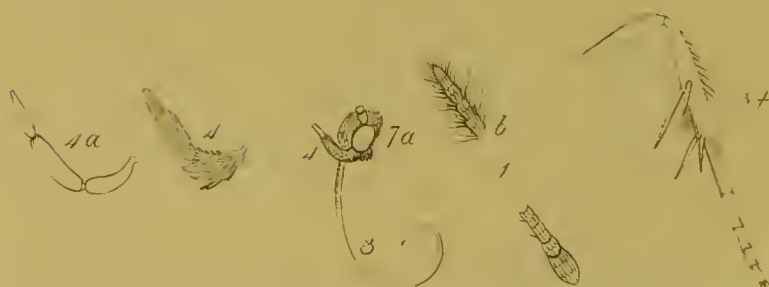
Palpi longer than the head: antennæ producing in the males 2 ciliated spines towards the base of each joint. Gray or cinereous, superior wings rounded, base dark cinereous, terminated by a blackish curved striga; beyond the middle is a fine sinuated black striga bounding a gray fascia containing one of the 3 tufts, through which sometimes passes a pale brown waved striga; a gray sinuated line towards the posterior margin, and 2 dots on the costa: inferior wings palest at the base.

Beginning and middle of July in hedges and gardens; on paling in Regent's Park. The Caterpillar feeds on Apple-trees.

The Plant is *Eriophorum angustifolium* (Common Cotton-grass).







Col. by J. Curtis Aug. 1. 1836

## SIMAËTHIS MYLLERANA.

## Myller's Nettle-tap.

ORDER Lepidoptera. FAM. Tortricidæ.

*Type of the Genus, Tinea Oxyacanthella Linn.*

SIMAËTHIS Leach, Sam.—Anthophila Haw.—Agrotera Schr.—Asopia Treit.—Xylopora Lat.—Pylalis Fab., Lat.—Tortrix & Tinea Linn.

*Antennæ* inserted on the crown of the head, close to the eyes, slender and capillary, clothed with scales above, very pilose beneath especially towards the apex, some appearing biciliated in the males, basal joint the stoutest, 2nd subglobose, the remainder oblong, terminal joint conical (fig. 1. the base and apex). *Maxillæ* half as long again as the antennæ, clothed with scales at the base (3).

*Labial Palpi* porrected obliquely, curved at the base but not at the apex, scaly but not hairy, the terminal joint distinct (4); triarticulate, basal joint long and robust, 2nd longer and rather more robust, 3rd nearly as long as the first, but slenderer and attenuated to the apex (4 a).

Head rather small clothed with scales. Eyes not large. Ocelli 2 rather large (7 a). Thorax ovate. Abdomen linear, obtuse at the apex, sub-ventricose in the females. Wings ample, when at rest nearly forming a triangle, the superior sometimes raised from the inferior. Legs rather stout. Tibiæ, anterior short, with an internal spine, middle and hinder pair terminated by long spurs, the latter having a pair at the middle. Tarsi 5-jointed, anterior much longer than the tibiæ. Claws and Pulvilli minute (8†, hind leg). Caterpillars with 6 pectoral, 8 abdominal, and 2 anal feet?

MYLLERANA Fab. Ent. Syst. v. 3. pars 2. p. 277. n. 147.

Female. Brown with an orange hue. Antennæ and legs white, the former dotted, the latter annulated with black. Thorax with the lobes edged with white. Abdomen with the margins of the segments silvery. Superior wings with a space on the interior margin thickly sprinkled with white scales; 3 white spots on the costa, a white dot near the base and one at the centre, with a smaller one above; about 7 metallic spots with a pink tint, towards the costa, and between the base and the middle of the wing, a curved but interrupted metallic line nearer the posterior margin, and an abbreviated one parallel and close to the fringe, which is white, brown at the base and black at the apex and at the posterior angle. Inferior wings fuscous, sprinkled a little with white, with a short white transverse stripe towards the margin. Cilia white, with a brown line at the base, an imperfect fuscous stripe at the centre and black near the superior wings. Underside fuscous, 2 white spots on the costa, a long white spot near the middle of the inferior wings, and below it an abbreviated transverse stripe. Male with the antennæ producing very long cilia on each side, (fig. 1. b).

*In the Cabinets of Mr. Haworth, Mr. Dale, and the Author.*

THIS little group, which has long been distinguished as a genus, forms the 2nd division of Tréitschke's Asopiæ, and is included by some authors with the Pyralidæ (Hypenæ, pl. 288, &c.); but there is every reason to believe that it is more nearly allied to the Tortricidæ (*Pyalis* *Fab.*), and if the caterpillars have 16 feet, *Simaëthis* cannot belong to the Pyralidæ, a proof how much remains to be learned of these beautiful and interesting tribes, when we find that the larvæ of these moths, some of which are frequently hovering about every flower of the Ragwort, are unknown.

The *Simaëthes* are remarkable for the peculiar manner in which they carry their wings when they settle or walk, the upper ones divaricating a little, and the external margin slightly elevated, so as to discover the under wings. They fly during the day, and are very lively when the sun shines.

I shall not at present venture to offer an opinion as to their location, for the structure of the Lepidoptera is so little known, that, excepting the Papilionidæ, and the outline proposed by Latreille, I have seen no arrangement that gives me the slightest idea of their natural affinities.

The following are our British species.

1. *S. Fabriciana* *Linn. Syst. Nat.* 2. 880. 324.—*Fabricii* *Haw.* 471. 1.—*Urticana* *Hüb. Tort. pl.* 44. f. 273. ♀—*Oxyacanthella* *Linn.* 2. 886. 357.—*Oxyacanthæ* *Haw.*—*dentana* *Hüb. pl.* 1. f. 4. 5.—*alternalis* *Treit.*

Found from April to October on the Ragwort and other plants in Norfolk, Suffolk, Surrey, the Isle of Wight, Dorsetshire, &c.

2. *S. pariana* *Linn. Faun. Suec.* 1341.—*Hüb. pl.* 1. f. 1. 2.—*par* *Haw.*—*parialis* *Treit.*—*lutosa* *Haw.* 472.

Found in gardens in the autumn. Mr. Haworth's *A. lutosa* is the same as Hübner's fig. 1; it has been found the beginning of March, but Mr. Dale took it the end of June on an apple-tree at Glanville's Wootton.

3. *S. Myllerana* *Fab.*—*Curtis's Brit. Ent. pl.* 320.—*Mylleri* *Haw.* 472.—*Schestediana* *Fab.* 3. p. 279. 152. var.?

Taken by Mr. Dale the beginning of June and September upon the Fern, Mint, and Sweet Gale, near Brockenhurst and West Hurn Hants, and on Parley Heath Dorset. I also took it in abundance a few years since on Nettles near Torquay Devon in October, and it is found likewise on Thistles.

4. *S. punctosa* *Haw. Lep. Brit.* 472. 6.

Mr. Haworth, I believe, has taken specimens in Ashdown Forest, and Mr. Dale found it upon yellow flowers in Middle-marsh-wood, Dorset, the 9th and 15th of August.

The palpi and the antennæ of the males, in these 2 species differ considerably from the two first.

The plant is *Mentha hirsuta* (Hairy Mint).







## PYRAUSTA CINGULALIS.

The silver-barred Sable.

ORDER Lepidoptera. FAM. Pyralidæ *Leach*. Crambites *Lat*.

*Type of the Genus Pyralis purpuralis Linn.*

PYRAUSTA *Schr.*—Botys *Lat.*, *Leach.*—Pyralis, *Linn.*, *Hüb.*, *Haw.*  
Crambus *Fab.*—Phalæna Geometra *Linn.*

*Antennæ* nearly capillary, alike in both sexes, inserted between the eyes on the crown of the head, composed of numerous elongated joints, covered with scales above, hairy beneath, basal joint robust (fig. 1 a, a few joints magnified).

*Maxillæ* spiral, very long and slender, covered with small scales on the external surface towards the base (3). *Palpi* small exerted, arising from a lobe at the base of the maxillæ, covered with scales which extend far beyond the apex, composed of three small joints (3 a).

*Labial Palpi* porrected like a beak, longer than the head, robust, covered with scales which extend far beyond their apex (4), 3-jointed, basal joint short curved, 2nd long, slightly attenuated, 3rd small ovate (4 a).

Head rather small, covered with long scales, close on the forehead (7).

Wings, superior covering the inferior when at rest, slightly deflexed, and forming a triangle. Ocelli 2, remote, situated behind the antennæ (7 a). Legs long, anterior pair with the tibia much shorter than the femur, with a long spine on the internal side. Tibiæ of the 2nd pair with spurs at the apex, of posterior with spurs also above the apex. Tarsi 5-jointed, basal joint as long as the tibia in the anterior pair. Claws minute. Pulvilli minute (8, a fore leg).

Caterpillars with 6 pectoral, 8 abdominal and 2 anal feet?

CINGULALIS *Hüb. Schmet. Pyr.* 5. 30.—cingulata *Linn. Faun. Suec.* 1303.

Brownish black, slightly tinged with purple. Head and palpi beneath dirty white; superior wings with a sinuated narrow pale ochraceous stripe parallel to the posterior margin, continued across the inferior wings and forming a semicircular line; ciliæ white at their extremities.

*In the Author's and other Cabinets.*

ALL the species that form this beautiful group are day-flying insects, and are generally to be seen hovering about grassy situations when the sun shines. Germar informs us that Schrank in the *Fauna Boica*, II. 2, 164, has named them *Pyrausta*; but as we have never seen that work, we do not know whether he has given any characters. We believe the ocelli, so very similar to those of *Ægeria*, have not been noticed by any author.

The following are the species recorded as British; and it is a little singular that not one has been added to the group since Mr. Haworth described them in his *Lepidoptera Britannica*.

- 1 *P. atralis* Linn., Don. 8. 266. 4. . July. Grassy places Birch wood.
- 2 *purpuralis* L., Don. 10. 339. 2. May. Hedges and Heaths.
- 3 *ostrinalis* Hüb. . . . . July. Hedges.
- 4 *punicealis* Hüb. . . . . June, July, Aug. Heaths, Hampshire.
- 5 *porphyralis* Fab. . . . . July. Heaths.
- 6 *cespitalis* Fab. . . . . July. Chalky places.
- 7 *sordidalis* Hüb. . . . . April, June, July. Chalky and grassy places.
- 8 *anguinalis* Hüb. . . . . July. Chalky places. Mr. Walker Southgate.
- 9 *cingulalis* Linn . . . . . June, July. Grassy hills Scotland, Devon.

As all the above species are figured by Hübner we have selected the rarest, which Mr. Dale and myself had the pleasure of capturing in tolerable plenty, as we ascended Arthur's Seat near Edinburgh the end of June 1825. We observed that whenever a cloud obscured the sun, they ran amongst the roots of the short grass to conceal themselves—*P. cingulalis* is also met with in Devonshire, and I believe in Hampshire.

The plant is *Bromus mollis* (Soft Brome-grass.)





## HYDROCAMPA STRATIOTATA.

## The ringed China-mark.

*Type of the Genus, Geometra Stratiotata Linn.*

HYDROCAMPA Lat., Goda., Curt.—Nymphula Schr., Och.—Pylalis Hüb., Haw.—Geometra Linn.—Phalæna Fab.

*Antennæ* alike in both sexes, inserted close to the eyes on the crown of the head (1), nearly as long as the body, slender, setaceous, composed of numerous oblong joints, clothed with scales and ciliated beneath, sometimes with each joint tasselled or knotted beyond the middle to the apex, where they are compressed (1 a).

*Maxillæ* considerably shorter than the maxillary palpi, composed of 2 filiform threads (3). *Palpi* small, porrected, clothed with scales (7 a), 4-jointed, 3 first joints stout, somewhat cup-shaped, 4th smaller and globose (3 a).

*Labial Palpi* longer than the head, porrected, a little curved and attenuated, clothed with scales (4), triarticulate, basal joint a little the stoutest, somewhat obovate, 2nd longer, subelliptic, 3rd slender, as long as the first and nearly naked (4 a).

Males smaller than the females. Head small, subglobose: eyes lateral, globose and prominent: ocelli two (7, head in profile). Thorax small and globose. Abdomen long, slender, and tufted at the apex in the male, conical in the female. Wings forming a triangle and depressed when at rest, superior rather long, narrow and lanceolate in the female; inferior ovate-trigonal. Legs long and slender. Thighs short, especially the posterior: Tibiæ, anterior very short, with an internal spine, 4 posterior long and terminated by long spurs, the hinder pair having 2 also at the middle (8†): tarsi very long and 5-jointed, basal joint the longest, the following gradually decreasing in length: claws and pulvilli very minute.

Larvæ with 6 pectoral, 8 abdominal, and 2 anal feet, generally smooth.

STRATIOTATA Linn. F. S. 341. 1300.—Curt. Guide, Gen. 974. 5.—paludata Fab.

Male white, antennæ knotted towards the apex; abdomen with the base of each segment blackish: superior wings obtuse, variegated with brown, forming an unequal oblique fascia across the centre, the further margin edged with white, a white stripe crenated by a brown line near to the posterior margin and a white dot on the disc in a dark ring; cilia spotted with darker brown, and white at the base; inferior with 2 or 3 interrupted brown waved lines across the middle, and a fine one near to the margin; cilia spotted brown at the base. Female dirty ochre, superior wings more lanceolate, with a small dark ring on the disk, and a faint oblique line beyond it: inferior wings more or less white, with the waved line below the centre generally broad, cilia ochraceous.

*In the Author's and other Cabinets.*



THE habits of the larvæ are most remarkable: they cut pieces out of the leaves of the Water-lilies, Frog-bit, Duck-weed and other floating plants, with which they cover themselves as with a shield, rendering themselves so difficult to be seen, that when at rest it is almost impossible to detect them. When they are desirous of removing to any distance, I believe they will leave their cases, (probably during the night, when they are not in danger of being punctured by Ichneumons or flies,) as I have seen them wandering about at that period without their cases.

I have on a former occasion alluded to the *Scopula Sambucalis* having been included in this genus; but however its appearance may lead any one to suppose it is an *Hydrocampa*, its structure and œconomy will at once determine it to belong to another group. For the same reasons *H. literalis* ought to be removed; and there will then remain two divisions.

I regret not being able to transcribe the interesting histories of some of these insects from Reaumur and De Geer, which have been abridged by M. Duponchel in his excellent continuation of Godart's "*Lépidoptères de France*."

A. Labial palpi straight and rather drooping.

1. *H. literalis* Hüb. t. 13. f. 86.—*reticularis* Linn. Cab.—*Faun. Succ.* 1355.—*argentalis* Fab.—July, moist places.

B. Labial palpi recurved, short and very scaly.

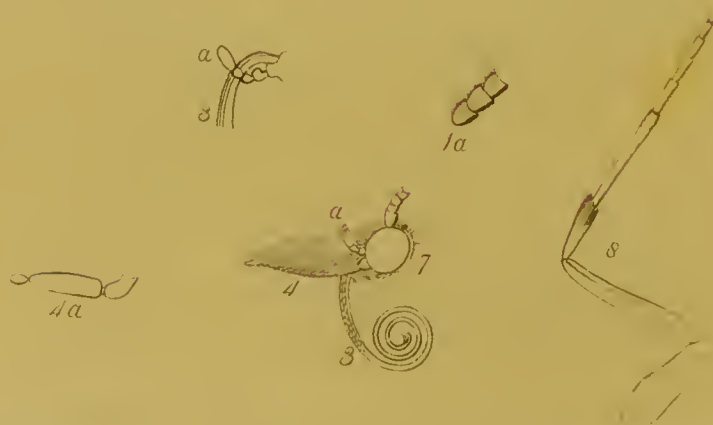
2. *H. Potamogata* L.—*Don.* 11. 363. 1.—*Nymphæalis* Hüb., from whom the caterpillar in our plate is drawn, to show its curious habitation: it feeds also on the *Potamogeton natans*.—M. July and b. of August, swampy places on heaths, Hants; e. August, males in meadows and on Water-lilies, borders of rivers.
3. *H. Nymphæata* L.—*Potamogalis* Hüb.—*stagnata* Don. 11. 363. 2.—M. July, moist places round London, &c.—The caterpillar feeds on the Duck-weed.

C. Labial palpi recurved, slender and sparingly clothed.

4. *H. Lemnata* L.—*Don.* 8. 266. 1 & 2.—*uliginata* F. ♀.—M. May, moist places; e. July, Fulham, on the *Hydrocharis Morsus-ranæ* (Pl. 307.) and the Duck-weed.—The caterpillar forms cases like *H. Potamogata*.
- 4<sup>a</sup>. *H. magnificalis* Och.—*Hüb. tab.* 16. f. 104. ♀.—Stated by Treitschke to be a British insect.
5. *H. Stratiotata* L.—*Curt. B. E. pl.* 495. ♂ ♀ (drawn rather larger than life).—B. July, ponds.—The caterpillar feeds on the *Stratiotes Aloides* (Pl. 488.): it is furnished on each side with external tubes connected with the tracheæ, which look like hairs: *vide* De Geer, v. 1. t. 37. f. 2—6.

The Plant is *Nymphæa* (*Nuphar* Smith) *lutca* (Yellow Water-lily). The leaf is reduced about two thirds.





## SCOPULA LONGIPEDALIS.

The long-legged Pearl.

ORDER Lepidoptera. FAM. Pyralidæ *Leach*.—Crambites *Lat*.*Type of the Genus, Pyralis nebulalis Hüb.*SCOPULA *Schr., Treit., Steph.*—*Botys Lat., Treit., Steph.*—*Margaritia Steph.*—*Pyralis Hüb., Haw.*—*Phalæna Linn., Fab.**Antennæ* inserted on the crown of the head (7), sometimes as long as the wings, slender setaceous, composed of numerous short joints clothed with scales above pubescent beneath (1 a).*Labrum* trigonate and transparent.*Mandibles* densely ciliated on the inside.*Maxillæ* as long as the antennæ, spiral, and attenuated, a considerable space at the base covered externally with scales, the apex ciliated (3). *Palpi* distinct curved upward, clothed with long scales at the apex (7 a), 4-jointed, basal joint produced above, 2nd and 3rd subovate, 3rd globose, 4th large ovate (3 a).*Labial Palpi* rather long, and porrected horizontally, densely covered with scales, robust, acuminate at both ends, the scales forming a pencil and completely concealing the apical joint (4); 3-jointed, basal joint short, 2nd long and rather robust, 3rd minute oval (4 a).*Head small. Eyes large globose. Ocelli distinct, placed behind the antennæ (7). Thorax never robust nor crested. Abdomen slender, frequently long and obtuse in the males. Wings various in form, the superior covering the others when at rest and forming a triangle. Legs long. Coxæ, anterior long. Thighs, posterior short. Tibiæ, anterior very short, clothed with thick scales on the inside, middle and posterior pairs spurred at the apex, the latter having a pair near the middle. Tarsi long, 5-jointed. Claws and Pulvilli minute (8, a fore leg). Caterpillars with 6 pectoral, 6 or 8 abdominal and 2 anal feet. Pupæ either inclosed in a firm earthy cocoon, or fastened between dry leaves, moss, &c.*LONGIPEDALIS *Dale's MSS.*

Reddish ochre. Palpi as long as the head, white beneath. Antennæ nearly as long as the wings. Eyes blackish. Body very long. Superior wings darkest at the costa, a sinuated dusky striga before the middle, with a small whitish spot on the basal side at its upper extremity, and sometimes a small oblong one on the opposite side but lower down; a kidney-shaped whitish spot a little beyond the centre, and a very sinuated dull purplish striga nearer the posterior margin. Inferior wings rather small, inclining to a rusty brown, especially at the margin, with 2 faint sinuated lines, one towards the base the other beyond the middle. Legs very long and slender.

*Obs.* Some specimens are of a cinereous ochre colour.*In the Cabinets of Mr. Dale and the Author.*



THE type of Latreille's genus *Botys* (*Phalæna purpuraria* Linn.) being a *Geometra*, I have adopted Schrank's name to avoid confusion; and I have not divided the group into genera, because I am not satisfied with Treitschke's characters: but when the structure of the insects and their æconomy are sufficiently understood, they probably may be formed into several genera with great advantage.

The following is a perfectly new arrangement; it includes some insects unnoticed as British, and others hitherto placed in genera to which they did not belong.

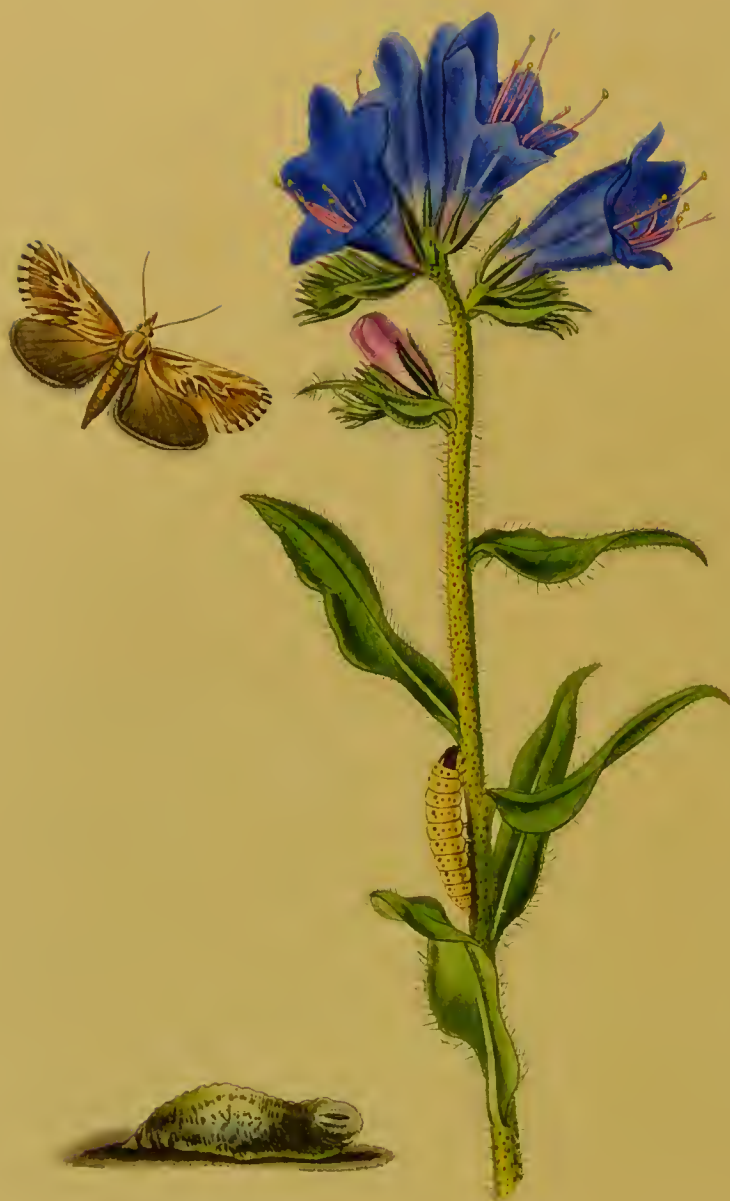
1. *S. Prunalis* Wien. *V.*—*leucophæalis* Hüb. *t.* 12. *f.* 77.—*albidalis* Hüb. 18. 118.—*nebulalis* Haw. but not of *Hüb.*
2. *S. olivalis* W. *V.*—*umbralis* Hüb. 8. 52.—*nivealis* Fab. ? Haw.
3. *S. sticticalis* Linn. ?—*tetragonalis* Haw.—*fuscalis* Hüb. 7. 45.
4. *S. Alpinalis* ? Hüb. 10. 63 ♂. 27. 175 and 176 ♀.—*uliginosalis* Curt. MSS.  
—Mr. Dale and myself discovered this Moth in July on the summit of Ben Lawers, and Craig-challoch, in Scotland.
5. *S. asinalis* Hüb. 29. 185.—For specimens of this insect I am indebted to Captain Blomer, who took them near Teignmouth, Devon.
6. *S. diversalis* Hüb. 16. 102.
7. *S. Borealis* Nob.—The larva I took on a very high hill near Oban, in August: it fed upon the *Solidago virgaurea* (pl. 45); the moth hatched the following June.
8. *S. pulveralis* Hüb. *t.* 17. *f.* 109.
9. *S. fuscalis* W. *V.*—*cineralis* Fab.—Hüb. 10. 66.—Haw.
10. *S. Sambucalis* W. *V.*—Hüb. 13. 81.—Haw. *p.* 383.—This insect has lately been associated with the *Hydrocampæ* of Lat., but it evidently belongs to this genus.
11. *S. Verbascalis* W. *V.*—*arcualis* Hüb. 12. 80.—Haw.
12. *S. longipedalis* Curtis *B. E. pl.* 312.—Taken by J. C. Dale, Esq. amongst brambles, at Weymouth Castle, Dorset, July 6th, and at Ryde in the Isle of Wight.
13. *S. ferrugalis* Hüb. 9. 54. & 23. 150.—Haw. 382.
14. *S. flavalis* W. *V.*—Hüb. 11. 69.—Haw. 381.
15. *S. institalis* Hüb. 29. 182.—*lutealis* Haw. but not of *Hüb.*
16. *S. ochrealis* Hüb. 22. 146.—Haw. not *P. Verbascalis* Hüb. 9. 59, which is the *B. Pandalis* Treit.
17. *S. hyalinalis* Hüb. 11. 74.—Haw. 377.—July, Darent-wood.
18. *S. cinctalis* Treit. 7. 97.—*limbalis* Hüb. 11. 72. & 73.—Haw.
19. *S. angustalis* Haw. *Lep. Brit. p.* 379. *n.* 8.—b. June, New Forest, Mr. Dale.
20. *S. terminalis* Haw. 379. 9.—July, Feversham.
21. *S. pallidalis* Haw. 379. 10.
22. *S. glabralis* Fab.—Hüb. 10. 65.—Haw.
23. *S. lancealis* ? W. *V.*—*glabralis* Fab.—Hüb. 18. 117 ♀.—*longalis* Haw.—June, Norfolk, and near Spitchwick Park, Devon.
24. *S. verticalis* Linn.—Hüb. 9. 57.—Don *v.* 16. *pl.* 556.
25. *S. Urticalis* Linn.—Hüb. 12. 78.—Don *v.* 10. *pl.* 349. 2.
26. *S. palealis* W. *V.*—Hüb. 11. 70.—Haw. 378.—Aug., Norfolk & Dover.
27. *S. margaritalis* W. *V.*—Fab.—*erucalis* Hüb. 9. 55.—Norfolk & Berks.
28. *S. elutalis* Hüb. 10. 62.—Haw.—*stramentalis* Treit. 7. 76. 18.
29. *S. forficalis* Linn.—Hüb. 9. 58.
30. *S. sericealis* W. *V.*—Hüb. 9. 56.—*Leeana* Fab.—Don 10. 357. 4.
31. *S. hybridalis* Hüb. 17. 114.—*T. noctuella* W. *V.*

I have excluded the *P. dentalis* Hüb., as I think from his figure that it cannot belong to this genus; and my specimen of *Pyralis ciliialis* Hüb. is nearly related to the *Crambi*.

The plant is *Cnicus palustris* (Marsh Thistle).







## ODONTIA DENTALIS.

The starry Brindle.

ORDER Lepidoptera.

FAM. Pyralidæ.

*Type of the Genus, Pyralis dentalis Wien. Verz.*

ODONTIA Dup., Curt.—Cynæda Hüb.—Scopula Schr.—Pyralis Hüb., Haw.—Phalæna Fab.—Noctua Fab., Esp.

*Antennæ* inserted on the crown of the head, rather short and slender, composed of numerous short joints clothed with scales above, pubescent beneath (1).*Maxillæ* spiral, but very short (3). *Palpi* visible, projecting obliquely and forming a tassel of scales (7 a); triarticulate, basal joint oblong, 2nd subglobose, 3rd the longest (3 a).*Labial palpi* porrected horizontally and forming a rather long sharp beak, densely clothed with scales (4); triarticulate, basal joint rather short and a little the stoutest, 2nd long and linear, 3rd more slender, shorter than the basal joint and conical at the apex (4 a).*Head small and subglobose*: eyes rather large and prominent: ocelli distinct (7, the head in profile). *Thorax subglobose, not crested*. *Wings slightly deflexed and forming a triangle in repose?*; superior rounded at the apex, the cilia long: inferior tolerably ample, ovate; cilia not long. *Abdomen with the apex obtuse in the male, slightly acuminate in the female*. *Thighs simple*: tibiæ, anterior with an internal spine, the others spurred at the apex, the posterior being the longest, with a pair of spurs also below the middle: tarsi 5-jointed: claws minute (8† hind leg).*Larva smooth, slightly tapering at both extremities, with 6 pectoral, 8 abdominal and two anal feet*. Hüb.*Pupa inclosed in a close web, formed amongst leaves, obtuse at one end and pointed at the other*. Hüb.*Obs. The dissections were made from a female, and the Larva and Cocoon were copied from Hübner.*

DENTALIS Schr.—Curt. Guide, Gen. 976, 1.—fulminans Fab.—ramalis Fab.—radiata Esp.

*In the Cabinet of Mr. Bentley.*

I INDICATED this peculiar insect as a Genus in my Guide, unconscious at that time of Hübner having done so before me;

and in the "Lepidoptères de France," M. Duponchel states that he adopts my genus, and has given it the name of

ODONTIA DENTALIS,

of which insect the following is a description.

Pale ochreous, superior wings with marks of a brown colour more or less dusky, leaving a few oblique rays on the costa towards the apex, with a pale spot near the posterior angle, a very irregular oblique line across the middle to the apex, forming 7 pale acute points and denticulations, sometimes with a brown semicircular line on the disc, and a semilunate one nearer the base: cilia bearing 8 blackish rays, alternating with 7 white ones on the posterior margin, which are formed by the nervures: abdomen and hinder wings fuscous, paler at the base.

I should long since have published this interesting insect, which was said to have only rudimentary or no maxillæ, but I was unable to obtain the loan of an example to figure, and I am now indebted to Mr. Bentley, whose specimen was purchased at the late Mr. Haworth's sale, and he merely stated in his Lep. Brit., that it was very uncommon in England; it is however added in the 'Illustrations,' that Mr. Haworth's insect was captured near London by Mr. Knight, and that another was taken several years since in Devonshire, not far from Tavistock.

As the plant on which the Caterpillar feeds is very abundant in many parts of England, it is possible that the *O. dentalis* may not be so scarce as it is supposed to be. M. Duponchel says that the Caterpillar lives in the stalks of the *Echium vulgare*, out of which it only comes for the purpose of changing into a chrysalis amongst the leaves of that plant.

The moth appears twice in the year, at the end of June and beginning of August, and is not rare in the environs of Paris; the specimen dissected I purchased at Montpellier.

The Plant is *Echium vulgare* (Common Viper-grass).







Painted by Charles Smith 1861

## PYRALIS CRIBRALIS.

## The Marsh Fan-foot.

ORDER Lepidoptera.

FAM. Pyralidæ.

*Type of the Genus, Ph. Pyralis barbalis Linn.*

PYRALIS Linn., Hüb., Curt.—Crambus Fab., Haw.—Herminia Lat., Och., Goda.

*Antennæ* inserted on the crown of the head, close to the eyes, rather long and clothed with scales, bipectinate in the males (1, ♂), each joint having two hairy tubercles near the apex and 2 short hairy rays near the base, each terminated by a long curved bristle; ciliated only in the female (1 ♀), the joints producing 2 bristles.

*Maxille* not so long as the antennæ, rather slender and spiral, ciliated towards the apex (3).

*Labial Palpi* very long slender and compressed, porrected obliquely, clothed with short compressed scales (4), triarticulate, basal joint short and curved, 2nd very long, nearly straight but slightly attenuated at each end, 3rd joint larger than the 1st, very slender and lanceolate (4 a).

Head rather small: eyes globose. Thorax ovate. Abdomen tufted in the male at the apex, conical in the female. Wings forming a nearly horizontal triangle when at rest, costa nearly straight. Legs rather long, anterior ornamented with long hairs in the males (8): coxæ long and ciliated on both sides (c): thighs long and slender, furnished with a fascicle of long hairs at the apex, inclining backward (f): tibiæ very short and obtrigonal, with a lobe on the inside, the external angle produced and forming a large hollow lobe (l): tarsi long 5-jointed, basal joint very long and compressed, with a fascicle of long hairs at the base (t): claws and pulvilli minute: the other tibiæ have a long pair of spurs at the apex, with two above them in the hinder pair.

Caterpillars with 6 pectoral, 8 (often only 6) abdominal and 2 anal feet. Hüb.

Pupæ inclosed in a gauze-like web, and placed on the earth. Dup.

CRIBRALIS Hüb., Pyral. tab. 1. fig. 2.—Curt. Guide, Gen. 978. 1.

*Male.* Pale fuscous-ochre; antennæ beautifully bipectinated, with the scales spreading over the inside a short distance from the base: 3rd joint of palpi elongated: superior wings palest on the disc, with a blackish dot near the centre and one or 2 oblique lines of dots beyond it, the 1st curved and not reaching the interior margin, the 2nd extending almost to the apex; inferior wings palest at the base: anterior thighs with a beautiful tassel of ochreous hairs at the apex, the tibiæ dilated and produced externally with a bundle of long hairs extending to the apex of the tarsi and concealing them.

*Female* with the antennæ and legs simple.

*In the Author's and other Cabinets.*

MOST writers call this genus *Herminia*, but Linnæus having placed *Ph. Pyralis tentacularis* and *P. barbalis* at the head of that group in his *Fauna Suecica*, I feel quite justified in retaining his name, although I regret it should be at the expense of Latreille's; and if the French Naturalist had not adopted the Fabrician nomenclature, by which our Tortricidæ were regarded as the Pyralidæ, he would not have deemed it necessary to give a new name to the present group. Mr. Haworth by some accident in quoting the *Fauna Suecica* has printed *Phalæna Geometra barbalis*, and others have copied the error, but neither that species nor *tentacularis* is anywhere referred to *Geometra* in the Works of Linnæus.

Six of the ten European species have been found in this country.

1. *P. cribralis* Hüb.—*Curt. Brit. Ent.*, pl. 527. ♂.

The male I took flying at Whittlesea Mere the 18th July, and found a female upon the ground amongst rushes; I also brushed a few males out of the long grass in a marsh at Horning the 24th of last June, and Capt. Chawner captured several flying in the evening.

2. *P. derivalis* Hüb. tab. 3. f. 19. ♂.—*Goda. v. 8. pl. 1. f. 2.*

June, skirts of woods, Kent; on the 9th of August Mr. Chant found it in Collyer's-wood, Greenhithe, and Mr. Bentley has taken it in Birch-wood.

3. *P. emortualis?* Hüb. tab. 1. f. 1. ♀.—*Goda. pl. 1. f. 1.*  
In Mr. Swainson's Cabinet.

The head of the Caterpillar is said to resemble that of an *Hesperia*; it feeds upon the Oak, and has been found in Germany the beginning of Sept.; the moth hatched the May following. In France it appears twice, in spring and in summer.

4. *P. barbalis* Linn.—*Goda. pl. 1. f. 5.*—*pectitalis* Hüb. tab. 19. f. 122. ♂.—*Harr. Expo. pl. 6. f. 2.*

Middle of May and beginning of June and July, pathways in woods; I have found it in Coomb-wood.

The caterpillar feeds on the Oak and Birch, and according to M. Duponchel, they live through the winter and become pupæ in March or April.

5. *P. tarsicrinalis* Hüb. tab. 1. f. 5. ♀.

End of June, open parts in woods: the caterpillar feeds on the *Trifolium hispanicum*.

6. *P. nemoralis* Fab.—*grisealis* Hüb. t. 1. f. 4. ♀.—*Goda. pl. 1. f. 4.*

End of June open parts of Darent and other woods:—the caterpillar feeds on the *Chrysosplenium alternifolium*; it will also eat the nettle and sorrel.

The plant figured is *Epipactis palustris* (Marsh Epipactis), and was found in flower where the Moth figured was taken.







## HYPENA CRASSALIS.

The beautiful Snout.

ORDER Lepidoptera. FAM. Pyralidæ *Curt.* Pyralites *Lat.**Type of the Genus, Pyralis proboscidalis Linn.*HYPENA *Schr., Treit.*—*Herminia Lat., Leach, Sam.*—*Crambus Fab., Haw.*—*Pyralis Linn., Hüb.**Antennæ* setaceous, alike in both sexes, inserted on the crown of the head close to the eyes (7\*1), composed of numerous sub-turbinate joints, clothed with scales above, pilose beneath (1).*Labrum* small and triangular.*Mandibles* distinct, internally very pilose.*Maxillæ* spiral, as long as the antennæ and very slender, a considerable portion of the extremity furnished with glands (3).*Labial Palpi* porrected obliquely, much longer than the head, compressed, very thickly clothed with scales (4), triarticulate, basal joint short curved, 2nd very long, thickest at the base, except at the union, 3rd joint recurved, perpendicular, longer than the 1st, very slender and pointed (4 a).

Head sometimes with a conical tuft of scales projecting horizontally.

Eyes large globose. Thorax not large. Abdomen rather slender, conical in the females. Wings ample, forming a triangle when at rest, superior subtrigonate, acute, the anterior margin nearly straight.

Legs rather long. Coxæ; anterior very long. Thighs very slender.

Tibiæ; anterior short, producing an internal spine, the others spurred, the posterior having two pair of spurs. Tarsi 5-jointed, basal joint the longest, but shorter than the tibiæ, 5th the shortest. Claws and

Pulvilli minute (8, a fore leg).

Caterpillars with 6 pectoral, 6 abdominal and 2 anal feet.

CRASSALIS *Fab. Ent. Syst. 3 pars 2. p. 222. n. 349.*

Dirty white. Head palpi and thorax brownish, the latter with the tips of the scales darker. Superior wings with a large subtrigonate deep brown spot margined with white reaching from the base beyond the middle, but not to the interior margin which is slightly carneous, upon it are two black dots; towards the posterior margin is a curved row of 8 black dots edged externally with white; the apex is fuscous with an oblique brown stripe; the margin and cilia are spotted. Abdomen and inferior wings fuscous cinereous.

*In the Author's and other Cabinets.*

LINNÆUS's division *Pyralis* contains insects varying so much in structure that it is undoubtedly necessary to divide it; and as it is a term which has been applied to various groups, it will be better to take the first species of Linnæus as the type, which will include the *Herminia* of Latreille with feathered feet and pectinated antennæ.

If structure be of any importance in the formation of groups, it will also be found necessary to divide what are termed by Latreille *Pyrallites*, into two or more families, as some have the maxillary palpi very distinct, whilst in others they are invisible; some have a very long spiral tongue, and others none.

In adopting Dr. Leach's arrangement, the term *Pyrallidæ* has been applied in former parts of this work to unite genera, which might perhaps with more propriety have been called *Crambidæ*. I am therefore obliged to distinguish the present family by terming it *Pyrallidæ* Curt.

The genus *Hypena* contains,

1. *proboscidalis* L.—*Hüb. pl. 2. f. 7.*—*Haw.*—*Sepp. v. 2. pl. 2.*  
—*ensalis* Fab.—e. June and August to m. October  
amongst nettles.
2. *crassalis* F.—*Curt. Brit. Ent. pl. 288.*—*Achatalis* *Hüb. pl. 2.*  
*f. 12. & pl. 27. f. 172 var.?* If the palpi in this figure  
be correctly given, it belongs to another genus. Mr.  
Plastead first discovered this beautiful insect in shady  
groves at Westerham in Kent the beginning of June;  
and I have been informed that specimens were taken  
last year in an old mine near Ashburton, Devon, in  
August. The caterpillars feed upon nettles and *Erica*  
*vulgaris* (pl. 145).
3. *palpalis* F.—*Hüb. pl. 2. f. 9.*—*Haw. 366. 2.*—In the late  
Mr. Francillon's Cabinet.
4. *obesalis* *Treit.*—*crassalis* *Hüb. pl. 2. f. 8.*—*Haw.*—In Mr.  
Haworth's Cabinet.
5. *rostralis* L.—*Hüb. 2. f. 10.*—*Haw. 366. 4.*—End of June,  
the caterpillar feeds on the hop, nettle, &c.
6. *vittalis* *Haw. 367. 5.*—*radiatalis?* *Hüb. pl. 20. f. 134.* This  
insect is so badly represented, that it is uncertain  
whether it be intended for Mr. Haworth's species.

Mr. Haworth remarks, "The last 5 species are all uncommon in England. By the works of Hübner they appear likewise to inhabit the continent of Europe, except *vittatus*; and what is more remarkable, I have seen them all from North America." Not one, excepting the 1st, has hitherto been figured in this country.

The plant is *Urtica dioica* (Common Nettle).





*Sub: Pop. Antheus. 1844*

## ASOPIA PICTALIS.

ORDER Lepidoptera. FAM. Pyralidæ.

*Type of the Genus, Pyralis farinalis Linn.*

ASOPIA Treit., Goda., Curt.—Agrotera Schr.—Botys Lat.—Crambus Fab., Haw.—Pyralis Linn., Hüb.—Phalæna Fab.

*Antennæ* inserted close to the eyes, on the crown of the head, rather long, setaceous, and clothed with long pubescence beneath in the male (1).*Maxillæ* spiral, considerably shorter than the antennæ, very much attenuated and clothed with scales at the base (3). *Palpi* very slender, porrected, triarticulate, basal joint pear-shaped, 2nd subreniform, 3rd small subovate, producing long scales forming a pencil at the apex (7 a & 3 a).*Labial palpi* curved upward, slightly divaricating, very scaly, the apical joint less so, triarticulate, basal joint short, 2nd twice as long, 3rd minute ovate (4 & 4 a).

Head small and globose: eyes lateral and prominent. Thorax clothed with depressed scales rather long on the sides. Abdomen rather stout, somewhat conical and alike in both sexes. Wings forming an elongate triangle in repose, the superior not always entirely covering the inferior, the former rather narrow and not pointed, the latter rounded. Coxæ, anterior large. Tibiæ, anterior very short, with an internal spine, intermediate with a pair of spurs at the apex one very long; posterior long and rather stout, spurred also at the apex and having a pair likewise near the middle (8 †).

Larvæ unknown.

PICTALIS Curt. Guide, Gen. 982.

Dull ochreous, eyes black, abdomen brown, edges of segments pale: superior wings lead colour, darkest at the base, with an ochreous spot on each side the thorax, a broad castaneous white fascia across the middle, the margins slightly waved and edged with white, a dark dot towards the centre and several on the costa, which is pale castaneous to the apex; cilia dirty ochre, blackish at the apex, and a line of dark spots at the base; inferior wings whitish, with a narrow somewhat reddish ochre fascia across the middle, the edges white and very much sinuated, the base lead colour, as well as a narrow space next to the fascia, the apex fuscous, with 3 blackish spots at the anal angle, one of them upon the cilia, which is dirty ochreous.

*In the Cabinet of Mr. Robertson.*

ASOPIA may be distinguished from Aglossa (pl. 455), which it most resembles, by its long spiral maxillæ; and the antennæ are not pectinated, but merely pubescent in the males; and this sex when at rest has the tail very much curved.



The following species have been detected in Britain, but not one of them has been figured in the works of this country that I am aware of.

1. *A. flammealis* Hüb. *Pyr. pl.* 15. f. 99.—*Goda. v.* 8. *pl.* 223. 7.

This insect has more pointed wings than the following, and the anterior coxæ are very slender and remarkably long; the scales also on each side of the thorax are very much elongated.

M. Duponchel says it flies in society about flowers after sunset. It is not uncommon the end of June in the broom fields at Coombe and Darent Woods: 12 and 28 July, Torquay and Valley of Rocks, Mr. Dale: Teignmouth, Captain Blomer: beginning of August, amongst grass and heath, near Blackgang-chine, J. C.

2. *A. glaucinalis* Linn.—*Goda. 223. 2.*—*nitidalis* Hüb. 15. 98.

In houses, gardens and hedges, July and beginning of August, in the neighbourhood of London.

3. *A. costalis* Fab.—*fimbrialis* Hüb. 15. 97.—*Goda. 223. 5.*

B. July, hedges Dartford and Coombe-wood, Mr. Dale. August 22, Hampton Wick, Middlesex, and on garden walls in the New Road, J. C.

4. *A. marginatus* Haw. *Lep. Brit. p.* 374. 23.—*rubidalis* Hüb.? 15. 96.

“(The scarce Meal Moth,) wings brownish, with 2 fuscous bands margined with white, the first at the base, the posterior one marginal.”—Haw. In the cabinets of Mr. Swainson and Mr. Raddon, who, I believe, took it near Barnstaple, Devon.

6. *A. pictalis* Curt. *Brit. Ent. pl.* 503.

For the loan of this unique insect I am indebted to G. Robertson, Esq., who found it on the side of a house in Poplar near London in July. It considerably resembles the following species, but it is much smaller, the upper wings are narrower as well as the band, and the base of all the wings is lead colour.

5. *farinalis* Linn.—Hüb. 15. 95.—*Goda. pl.* 223. 1.

Found in houses in July and August; frequent also in stables, on walls and the trunks of trees in gardens, and on paling in the Regent's Park, beginning of September, J. C.

The Plant is *Papaver hybridum* (Round rough-headed Poppy), communicated by Dr. Jermyu of Swaffham Prior, Cambridge.





## AGLOSSA STREATFIELDII.

## The Mendip Tabby Moth.

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ORDER Lepidoptera. FAM. Pyralidæ.

*Type of the Genus, Pyralis pinguinalis Linn.*

AGLOSSA Lat., Curt., Goda.—Crambus Fab., Haw.—Pyralis Linn., Hüb., Och.

*Antennæ* inserted on the crown of the head, close to the eyes, rather long and setaceous, clothed with scales above, pectinated in the male (1), each joint producing 4 short hairy rays, decreasing in length to the apex where the joints are only pubescent: simple in the female and pubescent beneath (1 ♀).

*Maxillæ* very small membranous, attenuated, curved, slightly pubescent at the base, with a few short scattered hairs (3); *Palpi* larger, corrected a little obliquely, clothed with scales and triarticulate, basal joint somewhat pear-shaped, 2nd oblong, 3rd the stoutest, subovate (3 a).

*Labial Palpi* projecting considerably beyond the head, nearly horizontal, the apex raised, clothed with short scales above and long beneath (4 a), triarticulate, 1st and 3rd joints of equal length, the latter slender, 2nd long and subfusiform (4 a).

Head rather small, with depressed scales: thorax not large, clothed with long hairy scales: abdomen linear in the male, tufted at the apex in both sexes, conical in the female and furnished with a retractile tube at the apex. Wings entire and obtuse, forming a triangle when at rest. Thighs, anterior short. Tibiæ, anterior very short, with a strong internal spine; middle pair spurred at the apex, as well as the posterior, which are long and have a pair of spurs at the middle: tarsi 5-jointed, basal joint long: claws minute.

Caterpillars with 6 pectoral, 8 abdominal and 2 anal feet.

Pupa inclosed in a silky cocoon covered with surrounding fragments. Dup.

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STREATFIELDII Curt. MSS.—Curt. Guide, Gen. 983, 2<sup>a</sup>.

*Male*, Lurid ochre, speckled with fuscous and rather glossy: antennæ ciliated beneath: palpi with a dusky spot on the inside of the 3rd joint at the base: eyes blackish: superior wings with an angulated brown bar at the base, a dot on the disc towards the costa, a fimbria of the same colour at the posterior margin, having the internal edge sinuated, with a row of black dots at the base of the cilia, where there is an ochreous line extending along the margin, nervures pale: inferior wings rather palest at the base.

*In the Author's Cabinet.*

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It is due to M. Duponchel to observe, that in his characters of this genus, he says "Proboscis none or *only rudimentary*," for with this exception the existence of maxillæ has been universally denied by authors in the genus *Aglossa*, a name that unfortunately implies the absence of a proboscis or tongue, for it will be seen by referring to our *fig. 3.* that there are maxillæ although very small and imperfect.

The following species have been found in Britain :

1. *A. dimidiata* *Haw. Lep. Brit.* 372. 19.

Beginning of August in the warehouses of the East India Company in London, and the larvæ are stated to feed on the tea in the chests ;—of course it is not a native insect.

2. *A. cuprealis* *Hüb. tab. 23. f. 153. ♀.*—*Goda. pl. 213. f. 5. ♀.*  
—*capreolatus* *Haw.*

End of July and August in houses, Wimborne Dorset and Hampton Wick Middlesex, Mr. Dale. Snarebrook Essex, Mr. Davis. Stables Coombe-wood, J. C.

- 2<sup>a</sup>. *A. Streatfieldii* *Curt. Brit. Ent. pl.* 455.

This remarkably distinct species was taken at Compton Bishop at the foot of the Mendip Hills Somerset, by the Rev. John Streatfield of Christ's College Cambridge, who most liberally presented it to me for the illustration of the genus *Aglossa*.

3. *A. pinguinalis* *Linn.*—*Hüb. tab. 4. f. 24. ♂.*—*Goda. pl. 213. f. 6. ♀.*—*pinguiculatus* *Haw. var.*

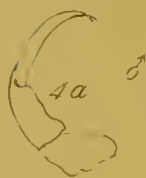
Middle of July, under stones, sides of Cliff Dover, J. C. ; end of July to middle of August, houses, stables and offices.

The larva of this moth unlike most others feeds upon animal substances, such as butter and bacon, and is stated by Linnæus to inhabit even the human stomach, where it is one of the most dangerous of worms, possibly from its capability of perforating the intestines ;—he adds that it may be expelled by an infusion of the *Lichen cumatilis*. Although it is many years since Linnæus made this remark, no one has either confirmed or contradicted it ; we go on copying the statement, and know perhaps less on the subject than he did at that time : this surely must arise from the ignorance or negligence of those who have opportunities of observing the various living animals that inhabit the human body.

The Plant is *Vicia sylvatica* (Wood Vetch), from the Isle of Wight, communicated by James Vine, Esq.







*Sub. hyp. (cost. n. s. 1 R. 1)*

## GALLERIA MELLONELLA.

## The Honey-comb Moth.

ORDER Lepidoptera.

FAM. Crambidae.

*Type of the Genus, Tinca mellonella Linn.*

GALLERIA Fab., Haw., Och., Curt.—Tinca Linn., Hüb.

*Antennæ* shortest in the males, setaceous, pubescent beneath, basal joint a little elongated, clavate and margined with scales beneath (1).

*Maxillæ* very short, membranous, curved and obtuse, basal half densely clothed with scales (3); rather longer in the female. *Palpi* entirely concealed in the male, short and triarticulate, two first joints small, 3rd large, obovate, and clothed with long tufted scales (3*a*); rather more pear-shaped in the female, in which sex they are not quite concealed (7 ♀ *a*).

*Labial palpi* short, rigid, ascending and very much curved in the male (7 ♂, 4), and bowed externally when viewed in front (7); triarticulate, basal joint short and robust in the male (4 *a* ♂), 2nd longer, stout and a little attenuated, 3rd the longest, slenderer and terminated by 2 closely united claws; longer, drooping and incurved in the female (7 ♀, 4), approximating at the base and scarcely divaricating, stout and densely clothed with scales, basal joint rather stout, 2nd inflated, longer and ovate, 3rd as long as the 1st, somewhat elongate-conic (4 *a*).

Head conical in the male (7 ♂), more obtuse in the female, with a dense brush of hairs hanging over the forehead (7 ♀): eyes prominent and ovate. Thorax robust, scutellum crested at the apex: Abdomen conical, terminated by a little tuft in the male, and a slender ovipositor in the female. Wings somewhat convoluted in repose, being depressed on the back, and compressed at the extremity, rather short and broad in the male, the anterior truncated and emarginate, forming a lobe towards the posterior angle; longer, narrower and much less emarginate in the female; cilia short. Legs stout; tibiæ, anterior short with a small internal spine, the others broad at the apex, with a pair of spurs, the hinder with a pair also a little below the middle: tarsi 5-jointed, the basal joint rather stout and elongated in the 4 posterior.

Larvæ nearly naked, with 6 pectoral, 8 abdominal and 2 anal feet; forming galleries amongst the comb in Beehives, in which they live.

MELLONELLA Linn.—Curt. Guide, Gen. 984. 2.

*Male* subochreous; a long spot on the thorax and tips of the scales round the apex dark brown: superior wings livid, with an interrupted line of tubercles along the middle, grey above, an elongated brown spot on the costa; inferior margin ochreous, variegated with castaneous, an incurved line of black dots and streaks beyond the middle, terminating in 2 large ones on the inner margin; inferior wings fuscous palest at the base. *Female* with the thorax and superior wings purplish brown with less grey along the middle, and all the markings less distinct; inferior wings ochreous white; cilia fuscous.

THE genus *Galleria* was established by Fabricius to characterize the Moths living in beehives. In the habits and struc-

ture of the trophi *G. mellonella* is so very similar to *Ilithya* Lat. that it seems scarcely necessary to separate them, but *G. alvearia* is so very different, that Hübner associates it with the *Lithosiæ*, and has called it

Gen. 983<sup>b</sup>. *ACHROIA*.

1. *alvearia* Fab.—*grisella* Fab.—*cinereola* Hüb. *Bomb.* 23. 91.

Pale cinereous, superior wings fuscous: labial palpi short and subhorizontal in both sexes: head clothed with ochreous depressed scales; wings elliptical, apex ovate: expanse, ♂ 8 and ♀ 9 lines.

This species runs very quick: Mr. Haworth used to find it in the neighbourhood of London in June. The larva feeds on the honey in beehives; and I suspect the figures 7, 8, 9, pl. 19. of Reaumur, are intended to represent this and not the following insect.

Gen. 984. *GALLERIA* Fab.

2. *Mellonella* Linn.—*Curt. B. E. pl.* 587. ♂. ♀.—*cereana* Linn.

Wherever there are beehives these insects are occasionally found, and sometimes in such abundance as to destroy the entire contents, compelling the bees to seek another habitation. Linnæus states that it was not introduced into Sweden until 1760, when it was imported with beehives from Germany, and as he *first* described it under the name of *Mellonella* I have used it in preference.

The larva shown feeding on the comb is copied from Hübner. The moths appear from the end of June to August, and last summer they were in such prodigious quantities, that Mr. Doubleday of Epping bred about 300 specimens, a pair of which were presented to me by Mr. F. Walker.

Since the genus *Melia* was published in Feb. 1828 (a year and a half before Mr. Stephens's Catalogue appeared, which makes it impossible for me to have followed him as he states in his Illustrations), we have learned from Ochsenheimer's 9th vol. that *T. colonella* and *sociella*, Linn., are the sexes; this will render the following alterations necessary in the Guide and fol. 201 of this work.

Gen. 985. *ILITHYA* Lat.

- A. Labial palpi with the terminal joint the longest in the males; superior wings obtuse.

1. *colonella* Linn. ♀.—*sociella* Fab.—*tribunella* Hüb. ♂.
2. *anella* Fab.—*bipunctana* Ent. *Trans.*—*sociella* Hüb.

Gen. 986. *MELIANA* Guide.

- B. Labial palpi with the 2nd joint the longest.

\* Superior wings lanceolate, somewhat acute.

1. *flammea* Curt. *Brit. Ent. v. 3. pl.* 201.

\*\* Superior wings obtuse.

2. *sericea* Curt. *Brit. Ent. v. 3. fol.* 201<sup>b</sup>.

The Plant is *Stellaria uliginosa* (Bog Stitchwort).







by J. Curtis Feb. 1 1828

## MELIA FLAMMEA.

ORDER Lepidoptera. FAM. Pyralidæ *Leach*. Crambites *Lat*.

*Type of the Genus* *Tinea sociella* *Fab*.

MELIA *Nob.*—*Lithosia* *Fab.*, *Haw.*—*Tinca* *Linn.*, *Fab.*, *Hüb*.

*Antennæ* alike in both sexes, inserted close to the eyes, on each side the crown of the head, not very long, setaceous, covered with scales above, pubescent beneath, basal joint very robust (fig. 1 a).

*Maxillæ* rather longer than the head, a considerable portion covered with scales externally (3). *Palpi* arising from a scape at the base of the maxillæ, concealed by scales, triarticulate basal joint small globose, 2nd large, 3rd very large, subovate-conic, producing very long scales (3 a).

*Labial Palpi* curved upward, thickly clothed with scales (4), triarticulate, basal joint robust, 2nd scarcely so thick, cylindric, truncated obliquely, 3rd the longest, spoon-shaped, hollow, coriaceous at one edge, submembranous and ciliated at the other (4 a), and terminated by a bifid claw or tooth (4 b).

Head short. Eyes not very large. Abdomen obtuse in the males, acuminate in the females. Wings convoluted when at rest: superior rather long and narrow, inferior ample. Legs, anterior the shortest. Tibiæ, anterior with a short flat spine on the internal side, the others with spurs at their apex, the hinder pair having 2 towards the middle.

Tarsi 5-jointed. Claws and Pulvilli small (8 a fore leg).

Larvæ with 6 pectoral, 8 abdominal and 2 anal feet?

FLAMMEA *Nob.*

Fuscous, with a pale reddish tinge. Superior wings with a brown flame-like space along the centre, (narrowed at the base,) above which is a short narrow ochraceous stripe, 5 or 6 minute brown spots forming a curved line near the posterior margin, upon which there are 7 minute black spots, alternating with the nervures, which are pale inclining to white towards the costa, the internal margin sprinkled with dark spots; inferior wings rather paler, their cilia whitish.

*In the Cabinet of Mr. Dale.*

As the following insects have their maxillary palpi developed, although they are concealed by the scales of the forehead,

Fabricius and those writers who have followed him in uniting *M. socia* with *Lithosia*, have been misled by analogy: the singular terminal joint of the labial palpi of that insect would have induced us to make a separate genus of it, had we not the strongest aversion to multiply names except where it is unavoidable; we have therefore made it the type of a genus which will connect *Galleria* with *Chilo*, a group separated from *Crambus*; for it appears that *M. socia* is nearly related to both, and *M. flammea* is a *Chilo* in habit, but it wants their elongated palpi.

The antennæ and legs of the following species agree perfectly, but other differences render it advisable to form them into three divisions.

A. Labial palpi with the terminal joint the longest. The superior wings obtuse.

1. *M. socia* *Fab.*—*Haw.*—*sociella* *Fab.*—*Tribunella* *Hüb.*

Middle of July in and near gardens round London, in Norfolk, Yorkshire, Perthshire, &c.

2. *M. bipunctana* *Haw. MSS.*—*sociella* *Hüb. Tinia*, pl. 4. f. 24.

Taken by Mr. Hatchett at the Jews' Burying Ground, Stepney. It is necessary to observe that I have not had an opportunity of examining this species.

B. Labial palpi with the second joint the longest.

\* Superior wings obtuse.

3. *M. sericea* *Nob.* This insect has a silky appearance. The thorax and superior wings are dull ochreous with a carneous tinge, minutely freckled with fuscous, and a row of dots at the posterior margin of the same colour; the body is paler, and the inferior wings almost white; it is not so large as *M. flammea*. I once took a specimen in a garden in Suffolk, flying late at night, the end of June; and Mr. Dale took a moth the 29th of June at Whittlesea Mere, which I think is the same species.

\*\* Superior wings lanceolate, somewhat acute.

4. *M. flammea* *Nob.*

The only specimen I have seen of this insect, was purchased of a collector by Mr. Dale. It is understood to have been taken at Lewisham near London.

The plant is *Sisymbrium Nasturtium* (Water Cress).





det. by J. Coulter & G. S. Gentry



## CHILO LANCEOLELLUS.

The lance-winged Venecr.

ORDER Lepidoptera.

FAM. Crambidæ.

*Type of the Genus, Tinea consortella Hüb.*

CHILO Zinck., Och., Goda., Curt.—Schoenobius Dupon.—Topentis Hüb.—Lithosia Fab.—Palparia Haw.—Tinea Hüb., Fab.

*Antennæ* inserted on the crown of the head, near the eyes, rather short, setaceous, scaly above, pubescent beneath, each joint producing longish hairs at the apex (1), shorter and simple in the female.*Maxillæ* very much shorter than the labial palpi, slightly spiral (3). *Palpi* as long, porrected obliquely, densely clothed with scales (7 a), 4-jointed (3 a), basal joint obovate, 2nd globose, 3rd stouter and obovate, 4th twice as large, stout and oval.*Labial palpi* very scaly, as long as the head and thorax, porrected horizontally like a beak, the apex slightly drooping (4), triarticulate, basal joint short, 2nd very long, slightly fusiform, slenderest at the base, 3rd slender short and elliptical (a).Head *small, transverse-ovate*: eyes *large, globose* (7, the profile).Thorax *small and oval*. Abdomen *long and slender with a small tuft at the apex in the male; very much thickened towards the apex in the female, and either rounded or pointed, with a dense bundle of hairs*. Wings *generally broader in the males and truncated obliquely; narrow, lanceolate and slightly falcated in the females: inferior ample and folded, most ovate and pointed in the female: cilia moderate*. Legs *slender, hinder very long: coxæ, anterior long: thighs tolerably equal: tibiæ, anterior very short, with a short internal spine, intermediate with a pair of spurs at the apex: hinder very long, spurred at the apex, with a longer but unequal pair also at the middle: tarsi very long and 5-jointed, basal joint very long, terminal the shortest: claws very minute* (8 †, hind leg).“Larvæ *naked, head and thorax horny and polished, with 6 pectoral, 8 abdominal and 2 anal feet*. Pupæ *inclosed in a cocoon, in reeds, &c.*”LANCEOLELLA Hüb.—Curt. *Guide, Gen.* 988. 4<sup>b</sup>.*Female* ochreous: superior wings long, lanceolate and pointed, orange-ochre with an undefined dash of brown nearly parallel to the costa, and a curved one arising at the apex and divaricating from the posterior margin, with a brown dot near the termination on the disc: inferior wings straw-coloured white, deepest at the apex: abdomen yellowish buff.*In the Author's and other Cabinets.*THE form of the palpi will distinguish this group from Harpypterix, pl. 535, to which it is closely allied. The larvæ live in the stems of reeds and grasses, feeding upon the pith; and a species discovered by the late Mr. L. Guilding, which he named *Diatrea Sacchari*, is injurious to the Sugar-cane. The ingenious way in which the Caterpillar transports itself from one stalk to another, when it finds nothing more to eat

in the first it inhabited, is so curious, that I shall copy Treitschke's remarks. "Surrounded by water as the larva is that cannot be very easy; it overcomes the difficulty however, in the following manner: it cuts a piece of the stalk which incloses it, the length of its body; this piece of stalk then becomes a portable case for it, in which it crosses the water without wetting itself, for it has taken the precaution to close both ends. When arrived near a stalk which suits, it thrusts the fore part of the body out of its case, climbs up against the stalk, dragging the case after it, and attaches it there to the same place that it has chosen to introduce itself into the stalk; so that it is secure from all danger during the period of its passage from one reed to another."

The following are recorded as British species:

1. *forficellus* *Thunb., Wood, pl. 48, f. 1523.*—*hirta* *Haw. ♂.*—*consortella* *Hüb. pl. 32, f. 220 ♂.*

June and July flying amongst sedges and *Iris Pseudacorus*, sides of canal at Paddington and banks of the Thames; sides of ponds Kensington Gardens; Epping Forest; Norfolk; and Whittlesea Mere. Caterpillar feeds in stalks of *Poa aquatica*.

2. *lanceolellus* *Hüb. pl. 43, f. 296 ♀.*—*Curt. B. E. pl. 727 ♀.*

Never having taken this insect, although I have met with multitudes of *C. forficellus*, I agreed with Hübner in considering them as distinct species, but they are stated positively to be the sexes by M. Moritz.

3. *fumeus* *Haw.*—*Wood, fig. 1524 ♂.*

June, Norfolk, amongst reeds, Mr. Skrimshire; Whittlesea Mere and near London.

4. *punctigerellus* *Step.*—*Wood, fig. 1525 ♂.* Very similar to the male of *C. gigantellus*.

"Taken near Whittlesea Mere in July." *Wood.*

5. *gigantellus* *Hüb. 8, 53 ♀.*—*Goda. pl. 267, f. 2 ♂ ♀*—*convoluta* *Fab.*—*Wood's fig. 1527* is not this species, it is more like *C. Phragmitellus*.

June on Hackney Marshes, Mr. Hatchett; July, Whittlesea Mere, Mr. Dale. The Caterpillar lives in the young stalks of *Arundo Phragmites* from the end of May to the end of Aug.

6. *caudellus* *Linn.*—*acuminella* *Hüb. 41, 284 ♀.*—*mucronellus* *Goda. pl. 283, f. 1 ♂ ♀.* *Wood's fig. 1528* is not Hübner's insect, but probably a wasted variety of No. 1.

June, woods near Dartford and Erith, Kent, amongst *Iris Pseudacorus*.

7. *Phragmitellus* *Hüb. 43, 297 ♂, 298 ♀.*—*rhombea* *Haw.*—I have never seen a specimen so light as *Wood's fig. 1526*, and there ought to be a dark dot on the disc of each upper wing.

June and July amongst reeds, on which the larvæ feed, Whittlesea Mere and Norfolk, Dr. Skrimshire.

I am indebted to J. G. Children, Esq. and W. W. Saunders, Esq. for the Star-headed Thrumwort, *Actinocarpus Dama-sonium*.





Pub by J. Carter Feb 1880



## HARPIPTERIX SCABRELLA.

The wainscot Hooktip.

ORDER Lepidoptera.

FAM. Crambidae.

*Type of the Genus, Tinea nemorella Linn.*

HARPIPTERIX Hüb., Och.—Plutella Schr., Curt.—Hypsolopha Hüb., Och.—Alucita and Ypsolophus Fab., Haw.—Palparia Haw.—Tinea Linn.

*Antennæ* porrected in repose, shorter than the wings, setaceous, clothed with scales above, pilose, composed of numerous joints, basal one long, robust and scaly above, 2nd and 3rd somewhat cup-shaped, the remainder increasing in length to the apical joint, which is short and subconic (1, portions of the base and apex).

*Maxillæ* spiral longer than the labial palpi, but very much shorter than the antennæ (3). *Palpi* minute (7 a) and generally concealed, biarticulate, basal joint globose and pilose, 2nd longer and subovate (3 a).

*Labial palpi* recurved, but appearing to be horizontal (4), very scaly, the scales produced horizontally very far beyond the apex of the 2nd joint beneath, the terminal one being naked and rising apparently from the centre of the palpus; triarticulate, basal joint not short, but stout and recurved, 2nd longer and stouter, ventricose, 3rd the shortest, elongate-ovate (4 a).

Head small, the crown thickly clothed with scales forming 2 elevated longitudinal lines: eyes lateral, prominent and globose. Thorax rather small, clothed with depressed scales. Abdomen rather short, a little tufted in the males, conical in the females. Wings deflexed in repose, superior long and linear, the costa arched, the tip hooked: inferior subovate. Legs, anterior the shortest, posterior the longest: tibiæ, anterior with an internal spine, the others terminated by long spurs, the hinder having a pair at the middle: tarsi 5-jointed, basal joint long, terminal one small: claws and pulvilli minute.

Larvæ with 6 pectoral, 8 abdominal and 2 anal feet. Hüb.

Pupæ inclosed in a long fusiform silky cocoon.

SCABRELLA Linn.—Curt. Guide, Gen. 989. 2.—pterodactylella Hüb., Tin. tab. 15. fig. 102.

White, sides and tips of palpi tawny; lateral scales of thorax brownish; costal half of anterior wings pale brownish flesh-colour, with longitudinal rays of white, a black dot at the centre and 4 others in a line towards the apex; interior half of wings dull castaneous-purple, with a few pale stripes and others ferruginous and blackish, there are also 3 large tufts of scales forming an oblique line directed towards the apex, and a few smaller ones, the apex very much hooked, from the cilia which are ferruginous, being elongated and rounded at the posterior angle: inferior wings pale fuscous, becoming whitish at the base.

*Obs.* This species varies considerably; in the specimen figured the dark portion of the superior wings forms an indented line.

*In the Author's and other Cabinets.*



By Treitschke's 9th Vol. I learn that the type of Schrank's genus *Plutella* is *Tinea Xylostella* Linn. I have therefore adopted Hübner's name of *Harpipterix* (Scythe-winged).

*Harpipterix* approaches so near to *Chilo* that it is difficult to determine to which, one of the species belongs; in the Guide I included it in the latter group, but on comparing the palpi I think it may be admitted into the former genus, which contains the following British species.

6. *H. cultrella* Hüb. *Tin.* 16. 109. ♀.—*Acinacidellus* Hüb. 34. 237.

End of June marshy places; in a field at Kimpton, Rev. G. T. Rudd, and Mr. Dale took one at Blandford that came to a lighted candle the 8th of November. The Caterpillar feeds on *Euonymus europæus* (pl. 194).

1. *H. nemorella* Linn.—*hamella* Hüb. 41. 282.

June and July marshy places; August woods.—The Caterpillar feeds on *Lonicera Caprifolium* (pl. 124).

2. *H. scabrella* Linn.—*Curt. Brit. Ent. pl.* 535 ♀.

The Caterpillar feeds on the common Plum-tree, and the Moth appears in July.

3. *H. asperella* Linn.—Hüb. 15. 101.—*falcatella* Don. 10. pl. 355. 5.

This beautiful little Moth has been taken by Mr. Dale and myself amongst the lichen on Apple-trees in his Orchard at Glanville's Wootton, the 8th of September and the 1st and 17th of October.

4. *H. harpella* W. V.—Hüb. 16. 110.—*dentella* Fab.

Middle of July, hedges and gardens on the Honeysuckle, on which the Caterpillar feeds.

5. *H. subfalcatella* Blunt's MSS.?

Length 3, breadth 10 lines: purplish-brown; superior wings with an ochreous or coppery tinge, mottled with a darker colour, 5 or 6 black dots on the costa beyond the middle, interior margin obscurely coloured with purplish grey, bounded by an indented line, on which are 2 or 3 dark tufts of scales: abdomen and inferior wings satiny white, the apex of the former and margin of the latter fuscous.

This species has been taken in the New Forest, and as it is not the *T. falcella* of Hübner, which it was at first stated to be, I have added the above characters to identify it.

The Plant is *Pyrus torminalis* (Wild Service tree), communicated by E. T. Bennett, Esq.





## NASCIA CILIALIS.

## The Cambridge Veneer.

ORDER Lepidoptera.

FAM. Crambidae.

*Type of the Genus, Pyralis ciliaris Hüb.*

NASCIA Curt.—Crambus Curt.—Margaritia Step.—Pyralis Hüb.

*Antennæ* placed rather behind the crown of the head, shorter than the body, slender, filiform, clothed with scales above, pubescent beneath, with a few bristles at remote distances (1).

*Maxillæ* spiral, longer than the palpi and clothed with scales outside at the base (3). *Palpi* distinct, porrected obliquely and clothed with scales, forming a truncate and thickened apex (7a).

*Labial palpi* long, slightly drooping (7, 4), projecting far beyond the head and meeting like a beak (7\* 4), stout and attenuated, densely clothed with scales, triarticulate?

Head small, subglobose, clothed with slender scales on the crown, falling down between the antennæ: eyes small lateral and prominent: ocelli minute (7 the head in profile, 7\* upper side of same). Thorax clothed with depressed hairs. Abdomen rather short and slender. Wings, superior subtrapezate, the apex acute and appearing slightly hooked; inferior, triangular rounded; cilia short. Anterior coxæ long and stout (8c); thighs rather long and stout; tibiæ short, with a long internal spine (l); tarsi long and 5-jointed, basal joint the longest, apical the shortest: claws and pulvilli minute: the other legs are wanting in my specimen.

Caterpillar, &c. unknown.

CILIALIS Hüb.—Curt. Guide, Gen. 990. 1.

Pale orange; head pale ochreous, margins of eyes and under-side of antennæ white, superior wings with the costa and all the nervures bright ferruginous, the former with a grayish bloom, the edge white; cilia whitish with a brown line at the base; inferior wings ochreous, yellowish white at the base; cilia whitish.

*In the Author's Cabinet.*

WHEN the genus *Scopula* was illustrated I corrected numerous errors committed in that group by Mr. Stephens in his Syst. Cat.; nine of his specific names were synonymous, two of his species had no claim to be admitted into our British lists, and five others belonging to this were placed in other genera†. I am glad to find that he has adopted all these cor-

† Vide folio 312, where *P. nebulalis* Hüb. is given as the type, but it ought to have been *P. nebulalis* of Haworth.

rections in his Illustrations; and that he has not noticed the source from whence he derived his information is of little consequence.

The insect before us he has retained in his genus *Margaritia*, which Hübner has divided into no less than 16 genera, to which Mr. Stephens has added another. I only notice this to show the absolute folly of adopting such arrangements founded merely on markings of the wings, &c. I admit that where these indicate a difference of structure either in the antennæ, legs, or trophi, they may be kept in view, and prove useful, but unsupported by such characters they are puerile distinctions, and will never, it is to be hoped, be admitted to overload science with useless names, by those who write to elucidate the study of natural history.

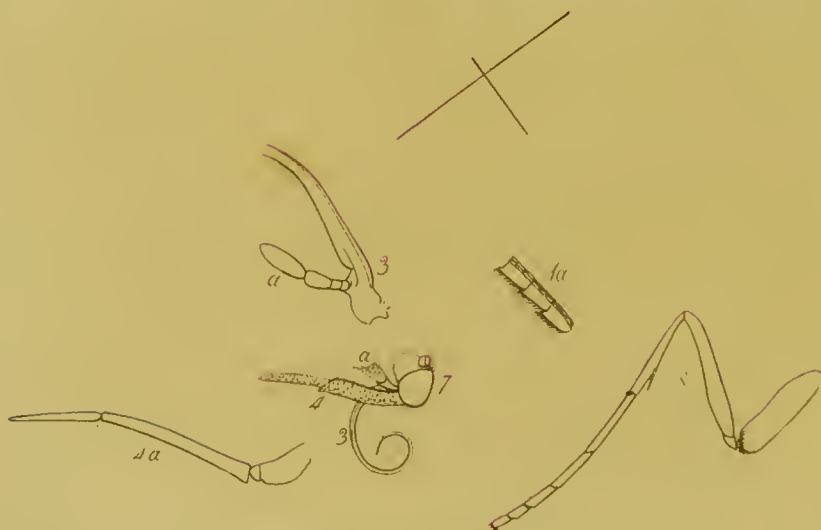
The only specimen I have seen of *N. ciliaris* came into my possession when I purchased the valuable collections of the late Mr. Edward Blunt. It was taken many years since, in the month of June, in the neighbourhood of Cambridge, by his brother, the Rev. W. Blunt.

From a careful examination of this insect, it proves to be so different to any of the genera before illustrated in this work, and others of which I have any knowledge, that it ought not to be included in any of them, for whilst its general habit is singularly intermediate between *Scopula* and *Crambus*, the shortness of its maxillæ at once distinguishes it from both those genera.

The Plant is *Iris Pseudacorus* (Water Flag).







## CRAMBUS RADIELLUS.

## The Rayed Veneer.

ORDER Lepidoptera. FAM. Pyralidæ *Leach*. Crambites *Lat.*

*Type of the Genus Phalæna Pascuella Linn.*

CRAMBUS *Fab., Lat., Leach.* Palparia *Haw.* Phalæna (*Tinea*) *Linn., Fab.* Tinea *Hüb.*

*Antennæ* alike in both sexes, inserted between the eyes near the back of the head, setaceous, composed of numerous elongated joints, covered with scales above, ciliated beneath; basal joint robust (f. 1 a, a few joints magnified).

*Maxillæ* long, slender, hairy towards the base (3, 3). *Palpi* exerted, tufted with scales (7 a); 4-jointed? 2 first joints minute, 3rd longer obovate, 4th equal in length to the others, elongate-ovate (3 a).

*Labial palpi* porrected like a beak, very long and slender, covered with short scales (4), 3-jointed, basal joint short robust, 2nd very long attenuated, 3rd long attenuated (4 a).

Head covered with short close scales, rather gibbose before. Wings convoluted when at rest: superior narrow, truncated a little obliquely at the extremity; inferior ample. Legs rather long, anterior pair with the tibia much shorter than the thigh, with a small internal spine. Tarsi 5-jointed, basal joint as long as the tibiæ in the anterior pair (8, a fore leg). Tibiæ of the 2nd pair with spurs at the apex; of posterior with spurs also above the apex. Claws slender, minute. Pulvilli small.

Caterpillars with 6 pectoral, 8 abdominal, and 2 anal feet?

Obs. The dissections are taken from *Tinea paleella Hüb.*

RADIELLUS *Nobis.*—radiella *Hüb., Schmet.*

Glossy, dull ferruginous ochre. *Antennæ* gray. Maxillary palpi internally whitish. Labial palpi fuscous at the apex. Thorax ferruginous, whitish at the base of the superior wings. Abdomen cinereous, inclining to violet at the base. Superior wings darkest towards the base with a silvery white line in the centre, dilated towards the apex, extending nearly to the posterior margin, where it is truncated obliquely; radiated more or less on the internal edge, in some only angulated. Inferior wings very pale yellow, speckled with brown, rosy at the base and internal margin; cilia whitish, tinged with ochre at the base, in the superior wings. Legs gray. Tarsi fuscous. Beneath pale yellowish gray. Abdomen fuscous. Superior wings with 2 fuscous broad rays from the base, not touching the costa.

*In the Cabinets of Mr. Dale and the Author.*

THIS genus belongs to a family distinguished by having 2 distinct pair of palpi, and which we have not before touched upon. *Crambus* is separated from *Chilo* (which it follows) by its less lanceolate wings and shorter legs, and from *Phycis* by its simple antennæ and porrected palpi. With the economy of this fine genus we are unacquainted; the perfect insects fly in the evening, and are remarkable for settling with their heads downward, an attitude that probably assists them in expanding their ample wings, which are so curiously convoluted round them, giving a cylindrical appearance to the insect. Many individuals of this genus are amongst our commonest Lepidoptera; and when walking under our brightest summer sun, through grass or fern, at every step our attention is diverted by the flight of this pretty race.

Mr. Haworth has described most of the species of our genus (about 30 in number) in his *Lepidoptera Britannica*, under the name of *Palparia*. I shall therefore only enumerate the following rare species, which have been considered as belonging to this group: but I must not omit to remark, that, excepting the 2 first, it is not from my own observations.

1. *Crambus margaritaceus* *Fab.*—Taken by Mr. Dale and myself, July 1825, in Perthshire.
2. *latistrius* *Haw.*—Taken in August by Mr. Dale in Dorsetshire and Hampshire.
3. *chrysonuchella* *Hüb.*
4. *barbus* *Haw.*
5. *auriferus* *Hüb.*—*Haw.*
6. *aridellus* *Hüb.*—Taken at Darent, Kent, by Mr. Stone.
7. *tetrix* *Haw.*
8. *tentaculeus* *Hüb.*—*Haw.*—Taken at Coombe, Surrey.

The species figured, which I believe to be a variety only of *T. radiella* *Hüb.* (Mr. Dale's other specimens having radiations), may be readily distinguished from *C. margaritaceus* (to which it is nearly allied), by its shorter palpi, the head not being white, the thorax entirely ferruginous, the stripe on the wings being narrower, more or less rayed, the inferior wings very much paler, clouded with ochre; and the cilia of the superior wings is white, and the underside very much darker.

Mr. Dale was so fortunate as to capture 2 specimens of *C. radiellus* on the summit of Ben Lawers, and 2 others near the top of Craig-challoch near Killin, the middle of July. The pretty *Silene acaulis* (Moss Catchfly or Campion), which grew in large masses there, was in flower at the time.







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## PHYCITA PINGUIS.

The Tabby Knot-horn.

ORDER Lepidoptera. FAM. Pyralidæ *Leach*. Crambites *Lat*.*Type of the Genus Tinea spicicella Fab.*PHYCITA *Nob.*—Phycis *Fab.*, *Haw.*—Tinea *Fab.*, *Hüb.*

*Antennæ* inserted on the crown of the head, long and setaceous, covered with scales above with hair beneath, the basal joint large and ovate, 6 or 7 of the following slender in some males, forming a curve and producing a large oval mass of scales (1), a few of the succeeding very short and transverse, produced on the internal side (1 a, the scales being removed).

*Maxillæ* not so long as the antennæ, very spiral, densely clothed with scales towards the base, with a few minute tentacula at the apex (3). *Palpi* scarcely visible (7 a), triarticulate, basal joint small, subglobose, 2nd larger obovate, 3rd as robust but shorter (3 a).

*Labial Palpi* as long as the head and recurved, rather slender and clothed with short scales (4); triarticulate, basal joint not short, subreniform, 2nd twice as long, very much curved, slightly attenuated, 3rd shorter than the 1st slender elongate-ovate (4 a).

Head not large. Eyes globose. Thorax robust. Abdomen reaching beyond the wings when extended, linear in the males and capable of producing a brush of beautiful hair, elongate-conic in the females. Wings convoluted when at rest, superior elongate trigonate, inferior ample and very much folded. *Tibiæ*, anterior with a small spine on the internal side, middle and posterior terminated by a pair of spurs, the latter having a pair above the apex. *Tarsi* 5-jointed, basal joint the longest. Claws and *Pulvilli* minute.

Caterpillars naked? with 6 pectoral, 8 abdominal and 2 anal feet.

PINGUIS *Haw. Lep. Brit.* 493. 6.

Pale dull ochre inclining to fuscous. *Antennæ* simple in both sexes. Head and thorax fuscous, a blackish spot on each side the latter; the body fuscous, margin of segments ochreous. Superior wings freckled with black, the base black, excepting a space at the insertion and a waved striga before the middle which are the colour of the ground, a sinuated waved line beyond the middle margined with black on the internal side; more suffused with black next the posterior margin on which are 6 or 7 minute black spots: inferior wings paler, the nervures and margin pale fuscous.

*In the Cabinets of Mr. Haworth, Mr. Marshall, and the Author.*

A CONSIDERABLE number of the males in this genus may be recognized by the peculiar knot, as it is termed, of the an-

tennæ, which upon dissection proves to be a bundle of scales attached to the joints: as however the females and many of the other sex have simple antennæ, the recurved palpi will be a more constant character to distinguish our genus from *Crambus*, to which it is nearly related. *Phycis* having been long employed to designate a group of fishes, it cannot be retained with propriety.

The following are our British species, but those with \* being desiderata, I may be mistaken in their affinities.

A. Superior wings whitish spotted with black.

1. *nebulea* Haw., *Hüb.*—Sand-hills near Christchurch, Hants, August?
2. *Cardui* Haw.—*Cribella* *Hüb.*, *Goda.*—May, June, m. August. Thistles.

B. Superior wings not white.

\* Antennæ of males dilated near the base.

3. *sanguinea* Haw., *Hüb.*—*carnella*. *Don.* 5. 153. 5.—May, b. Aug. Meadows near Dover.
4. *carnea* Linn., *Fab.*, *Hüb.*—Found with the last flying at sunset.
- \*5. *decuriella*. *Hüb. pl.* 11. *f.* 74.—10 July, amongst dry cones of Fir-trees, Parley Heath, J. C. Dale, Esq.
6. *legatea* Haw.—*legatella* *Hüb.*
7. *cristea* Haw.—*spicicella* *Hüb.*
8. *spissicornis* *Fab.*, *Haw.*—*spicicella* *Fab.*—*Cristella* *Hüb.*—June, Epping Forest.
9. *fusca* Haw.—New Forest, Charles Lyell, Esq.
10. *contubernea* *Hüb.*, *Haw.*—June, b. July, dry chalky fields.
11. *diluta* Haw.—*dilutella* *Hüb.*—*undella* *Fab.*?
12. *formosa*. *Haw.* 494. 9.

\*\* Antennæ of males not dilated near the base.

13. *consociella*. *Hüb. pl.* 48. *f.* 328.
14. *verrucea* Haw.—*verrucella* *Hüb.*
15. *fascia*. *Haw.* 496. 15.
- \*16. *obtusa* Haw.—*obtusella* *Hüb.*
17. *palumbea* Haw.—*palumbella* *Fab.*? *Hüb.*
18. *marmorea* Haw.—var. *abietella* *Fab.*?
19. *porphyrea* *Curt. MSS.*
20. *pinguis* Haw.—*Curt. Brit. Ent.* 233.—The female figured was taken 5th July upon the trunk of an Elm-tree in the Green Park by Thomas Marshall, Esq.
21. *bistriga* Haw.—B. June, July, skirts of Woods.
22. *angusta* Haw.—*angustella* *Hüb.*
23. *elutea* Haw.—*elutella* *Hüb.*
- \*24. *semirufa* Haw.—Near London.
- \*25. *rufa* Haw.—Old shady pales near London.

The plant is *Orchis* (*Habenaria*) *bifolia* (Butterfly Orchis), communicated by Sir John Tylden.







## EUDOREA MURANA.

## The Scotch Gray.

ORDER Lepidoptera. FAM. Pyralidæ *Leach*. Crambites *Lat*.

*Type of the Genus Tinca Pyralis Hüb.*

EUDOREA *Nob.*—Scoparia *Haw.*—Pyralis *Hüb.*—Tinea *Linn., Fab., Hüb.*

*Antennæ* alike in both sexes, setaceous, inserted close to the eyes, composed of numerous campanulate joints, having a serrated appearance, clothed with scales above, hairy beneath, basal joint the largest (fig 1, a).

*Maxillæ* spiral, not so long as the antennæ, completely clothed with scales towards the base (3). *Palpi* very distinct, porrected horizontally, thickly clothed with scales extending far beyond the apex (7 a), biarticulate, basal joint globose, 2nd elongate oval (3 a).

*Labial palpi* longer than the head, robust, drooping, clothed with short scales above, with long ones beneath, extending far beyond the apex (4); 3-jointed, basal joint curved, 2nd long nearly linear, 3rd small conical (4 a).

Head clothed with rather loose scales. Ocelli 2. Eyes large (7).

Wings slightly deflexed when at rest forming a triangle, superior long and narrow, inferior ample and folded. Abdomen extending beyond the wings. Legs rather long. Tibiæ, anterior not longer than the basal joint of the tarsus, internal side producing a spine thickly clothed with scales, 4 posterior spurred, the hinder pair having spurs above the apex. Claws very minute. Pulvilli none (8, a fore leg).

MURANA *Nob.*

Pale ochraceous, with a grayish tinge. Antennæ, head and thorax spotted with black; base of maxillary and underside of labial palpi black: superior wings clouded with gray and spotted with black forming an obscure striga near the base, a pale indented one before and a sinuated one beyond the middle; next to the former is a furcate black line near the costa, below which is a spot of the same colour not touching the striga, and close to the 3rd striga is a small black circle, with a semicircle at the top; the posterior margin and the base of the cilia are spotted with fuscous. Abdomen and inferior wings pale cinereous, the latter darkest at the margin; cilia pale. Legs annulated with black.

*In the Author's Cabinet.*

THIS very natural group was first distinguished as a genus by Mr. Haworth in his *Lepidoptera Britannica*, under the name of *Scoparia*, which having been applied by Linnæus to a genus of plants, we have been compelled to substitute another.

*Eudorea* being closely allied to Fabricius's genus *Phycis* (a name which must also fall, a group of fishes having been previously designated by it), we may observe that the antennæ of *Phycis* in the males appear to be incrassated towards the base, from the joints there producing a bundle of scales (from whence arises our trivial name of knot-horn), the wings when at rest are convoluted, and the labial palpi recurved.

Many species of *Eudorea* being found upon the trunks of trees, stone walls and paling, we suspect the caterpillars are Lichen feeders. The following is our list of British species.

1. *E. Cembrae* Haw. *Lep. Brit.* p. 498. n. 1.—*Cembrella* Linn.? *Fab.*?
2. *dubita* Haw.—*dubitalis* Hüb.
3. *subfusca* Haw.
4. *Pyralea* Haw.—*Pyralella* Hüb.
5. *Mercurea* Haw.—*Mercurella* Linn.—*Cratægella* Hüb.
6. *murana* Nob.
7. *lineola* Nob.—from Mr. Plastead's collection: very like the preceding, but the under wings have a sinuated line across them.
8. *Resinea* Haw.—*Resinella* Linn.?
9. *pallida* Nob.—from Whittlesea Meer. Wings short, broad and pale.
10. *angustea* Nob.—from Tonbridge Wells. Wings long and very narrow.

*E. murana* has received its name from being found upon walls; it has a more ochraceous with a slightly green tinge, and is more thickly speckled than any of the other species. I took a specimen on the 9th of July 1825, upon a stone wall near Aberfeldy in Perthshire, and saw another in a similar situation a few days after in the neighbourhood of Schecallien.

The plant is *Saxifraga stellaris* (Hairy Saxifrage), from the shady and moist sides of mountains in Scotland.



743





## DIURNEA NOVEMBRIS.

## The November Dagger Moth.

ORDER Lepidoptera.

FAM. Tineidæ.

*Type of the Genus, Tinea Fagella, Fab.*DIURNEA Haw., Goda., Curt.—*Lemmatophila Treit.*—*Tinea* and *Crambus* Fab.

*Antennæ* inserted on the crown of the head close to the eyes, thrown back in repose under the wings, nearly as long as the body in the male, slender and scaccous, composed of oblong scaly joints, with spreading hairs beneath (1 ♂), rather shorter and simply scaly in the females (1 ♀).

*Maxillæ* small, slender and not half the length of palpi (3).

*Labial palpi* rather large, remote, thickly clothed with long scales, porrected obliquely (4), triarticulate, basal joint short, ovate, abruptly curved at the base, 2nd very long, not stout, a little waved and slightly attenuated, 3rd a little longer than the 1st, very slender, tapering and acute (4 a); rather longer and stouter in the female.

Head *small transverse*: eyes *small globosc and prominent*. Thorax *not large nor crested*. Abdomen *rather short, linear and tufted in the male; stouter in the female; the apex conical, with a short ovipositor*. Wings *lying partially over each other horizontally in repose, and very long in the male (9); superior spatulate, the apex rounded: inferior ample, the apex rounded: cilia perfect but short: wings small and convex in the female, meeting upon the back when at rest; superior not longer than the body, narrow and lanceolate, the apex acute: cilia imperfect? inferior small lanceolate and very acute: cilia perfect*. Legs *longish in the male: tibiæ, anterior with a short spine and fascicle of scales on the inside, the others spurred at the apex, the hinder long stout and ciliated on both sides, with a pair of spurs at the middle: tarsi longish, slender and 5-jointed, basal joint long: claws minute (8†, hind leg)*. Female *with the legs stouter and the hinder tibiæ not hairy*.

Caterpillars *flat, furnished with 2 rows of verrucose dots, each terminated by a little hair; armed with a corneous shield on the back, with the 3rd pair of pectoral feet in form of a battledore, living and metamorphosing between the leaves*. Pupæ *slender and elongated, inclosed in a double web*. Goda.—Hub., Tin. 1., Bomb. B, a, fig. 2, a, b.

NOVEMBRIS Haw.—Curt. *Guide*, Gen. 995, 2.*In the Author's and other Cabinets.*

MR. HAWORTH's genus *Diurnea*, at the time it was published, embraced the insects which now form the *Semioscopis* and *Oporinia* Hüb., the *Lemmatophila* Treit., and my genera *Dasytoma* and *Cheimaphasia* established in the Ent. Mag. M. Godart has not adopted the former genus, and without assigning a reason has altered the last into *Cheimonophila*: as he is at a loss for the signification of the name *Diurnea*, it may be as well to state that it alluded to the moths flying in



the day; but whether it is as applicable to *Fagella* as to some of the other insects, I very much doubt. The same celebrated Lepidopterist seems to be mistaken in supposing the Diurnæ are destitute of maxillæ, and the palpi, when denuded, are distinctly articulated. The males fly slowly, and the females merely spread their wings a little when they walk.

\* *Palpi of female long and straight.*

1. *Fagella* *Fab.*—*Fagi* *Fab.*—*Wood*, *pl.* 41. *f.* 1273 ♂, ♀.—*disparella* *Schr.*—*atomana* *Knoch.*—*atomella* *Hüb.*, *pl.* 2. *f.* 13. *var.*?

*Male* ochreous-white, superior wings thickly freckled with brown, with 3 or 4 black dots on the disc: cilia spotted: inferior wings of an even greyish-brown. *Female* ochreous, freckled with black: superior wings with a very irregular sinuated black striga before, and another less so beyond the middle, with a black dot between them: antennæ and legs spotted black. Some specimens are lighter and griseous.

Not uncommon on the trunks of beech-trees the end of Feb. in March and April, Kensington Gardens and Regent's Park, J. C.; Newcastle, Mr. Wailes. The larva is found in Aug. and Sept. on the beech and oak, frequently upon the aspen, and sometimes on wild-roses: it spreads its pallet-shaped feet very much in walking, and when disturbed it makes a noise with them which faintly resembles the roll of a drum, according to the observations of M. Treitschke.

\*\* *Palpi shorter and recurved in the female.*

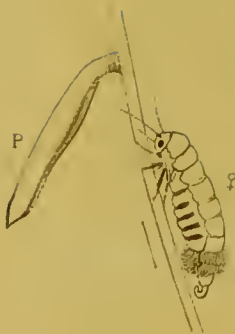
2. *Novembris* *Haw.*—*Curt. Brit. Ent.*, *pl.* 743 ♀.

*Female* whitish, variegated and spotted with brown: antennæ dotted with brown; apex of palpi dark: superior wings pale brown with white patches, and scattered scales, a longitudinal and undulating line of white scales not reaching the base but extending to the posterior margin, edged and interrupted by a black streak above it: inferior wings minutely freckled with pale brown, darkest at the apex. Another specimen has the upper wings lighter and griseous, the black forming two oblique streaks pointing to the head.

Rare on the trunks of lime-trees in Kensington Gardens in November, in which situation I have found it; it has also been observed near Kennington and in Epping Forest. It is strange that after so many years the male of this moth should still be unknown; Mr Haworth considered it might prove to be the female of *T. gelatella*, and at the same time stated that *T. phryganella* was supposed by others to be the male; both these suppositions are found to be incorrect, since the females of those species have been ascertained. M. Godart has figured both sexes of a moth under the name of *Dormoyella*, which may be a dark variety of our insect, but it is difficult to determine the point from an engraving.

For specimens of *Meconopsis cambrica*, Yellow Poppy, I am indebted to T. C. Heysham, Esq.





## COCHLEOPHASIA TESSELLEA.

The pale chequered brown Moth.

ORDER Lepidoptera. FAM. Tineidæ.

Type of the Genus, *Capillaria tessellea* Haw.

COCHLEOPHASIA Curt.—*Capillaria* Haw.

*Antennæ* inserted on the crown of the head close to the eyes, rather short, setaceous and ciliated internally in the male (1).

*Maxillæ* none?

*Labial palpi* rather drooping, divaricating and slender in the male, sparingly clothed with scales, which project considerably beyond the apex (4), triarticulate, joints nearly equal, 2nd a little the longest, terminal one subelliptic (4 a).

Male.—Head rather broad, very woolly and tufted on the crown (7): eyes remote, small, very prominent and globose: ocelli 2, very distinct and considerably removed from the eyes (7\*). Thorax small and globose. Abdomen short and somewhat conical in the male. Wings rather large and obtuse (9 superior wing to show the neuration), cilia long and thick. Thighs short: tibiæ, anterior very short with a small spine terminated in a pencil of scales on the inside, the others with very long spurs at the apex, the posterior having an additional pair below the middle: tarsi long and 5-jointed, basal joint the longest: claws and pulvilli minute.

Female (fig. ♀).—*Antennæ* as long as the thorax, capillary, composed of many small joints, basal joint the stoutest. Legs short and simple: tarsi 5-jointed: claws distinct, hooked and acute: abdomen rather stout, the 2 last joints but one densely clothed with wool: ovipositor exerted.

Larvæ living in an elongated case (P) in which they change to a brown Pupa obtuse at both ends.

TESSELLEA Haw.—*tesserella* Curt. *Guide, Gen.* 1001. 1.

*Male*. Fuscous shining ochreous, front and crown of head with a long ochreous tuft; superior wings mottled with ochre: legs pale ochreous; thighs dark lead colour, 4 anterior tarsi blackish above, the apex of the joints whitish.

*Female*. Pitchy or castaneous, the membranous parts dirty white: head and thorax shining: base of antennæ, tibiæ and tarsi shining ochreous: tuft of wool towards the apex of abdomen mouse colour.

*In the Author's and other Cabinets.*

THERE are numerous instances, even amongst our British Lepidoptera, of female Moths having rudiments only of wings, but very few that are so perfectly apterous as the females of *Cochleophasia*, which I have so called from its carrying a case that at a little distance looks like a *Clausilia* and other land shells when walking. These cases are inhabited by the caterpillar and pupa, but appear to be deserted by both sexes of the perfect insect. I have repeatedly found the cases and bred



the females from them, and Mr. George Robertson, of Limehouse, has bred the male. One of the cases is represented slightly magnified at figure P, and placed as they attach themselves to paling and the trunks of trees; the mouth is woolly as well as the whole inside, the outside is exactly the colour of lichen and very fine in texture; the apex is trigonate and formed of 3 triangular lobes, *closed* previous to the exit of the moth, and embracing the chrysalis by the middle whilst it crawls out.

The Author of *Lepidoptera Britannica* describes two species apparently of this genus, and as I only possess one of them I shall translate his account of the other.

1. *C. tessellea* Haw. *Lep. Brit.* p. 522. 10.\*—*Curt. Brit. Ent.* pl. 487. ♂ and ♀.

Mr. Haworth mentions 3 large pale spots on the costa towards the apex, but as he had seen only one specimen, it might be a variety or an accident, for I have not observed them in any specimen that has come under my observation.

I once found a considerable number of the cases the end of May sticking to paling that inclosed grass fields and Oak plantations in the neighbourhood of Southampton, which produced several female moths in a few days: I also detected one on the trunk of a birch tree I believe in Coombe-wood, and the male I have captured the beginning of June in Darent Lane and in Hampshire.

2. *C. pubicornis* Haw. *L. B.* 523. 11.—The pale downy horned Moth. Expansion of wings  $7\frac{1}{2}$  lines.

“Antennæ moderately long and pubescent, wings pale and immaculate. Head yellow, especially in front: posterior wings pale fuscous.”

Found near London but very rarely in July.

Distinct from the preceding and very like *Adela Panzerella*, from which it is distinguished by its pubescent and short antennæ. Haw.

The Plant is *Ballota nigra* (Black or stinking Horehound).

\* I formerly entertained an opinion that for the sake of uniformity and correctness it was expedient to alter names; but experience has convinced me that it is better to retain a name, even with its original spelling, although objectionable, if possible. It must be evident that many synonyms and additional names in Indexes, &c., would be avoided by this rule, whilst on the other hand as the spelling of a name is often arbitrary or a matter of taste, such as substituting *Haltica* for *Altica*, (the general adoption of which alteration would transfer a multitude of names from the A's to the H's, and in many instances make Genera now very distinct identical in spelling; for instance, *Elodes* and *Helodes*,) there would be no end to such alterations, and nomenclature could never be settled. As there are Entomologists who if they can ascertain that a generic name has been previously employed in Botany or any other branch of Science, immediately supersede it, and substitute one of their own, I here avow my determination not to supersede any generic name that has been established by *prefixed characters*, although it may have been employed in Botany or other branches of Nat. Hist.; at the same time it is desirable to avoid as far as possible making use in the first instance of names that have been established in other departments.







## ADELA FRISCHELLA.

Frisch's Japan or Long-horn Moth.

ORDER Lepidoptera. FAM. Tineidæ.

*Type of the Genus, Tinea viridella Fab.*

ADELA Lat., Curt.—Nemophron Hoff.—Nemapogon Schr.—Capillaria Haw.—Alucita Fab.—Tinea Linn., Hüb.

*Antennæ* inserted in front of the face, contiguous, porrected, very long, especially in the males, setaceous, composed of innumerable joints, clothed with scales, a few of the basal joints stout and hairy (1).*Maxillæ* spiral, twice or thrice as long as the labial palpi, clothed externally with long hairs nearly from the base to the middle (3).*Palpi* minute and biarticulate (a).*Labial Palpi* slender, sparingly clothed beneath with long hairs and curved upward: triarticulate, 1st and 2nd joints nearly of equal length and thickness, 3rd half as long, very slender and subfusiform (4 and 4\*).*Head transverse and hairy: eyes lateral, sometimes much larger in the male than female, and approximating on the crown* (7). *Thorax subovate, sometimes hairy. Abdomen short in the males, longer and attenuated to the apex in the females. Wings, superior lanceolate, inferior ovate-lanceolate, cilia rather long. Legs slender. Thighs small. Tibiæ, anterior short, with an internal spine, the others long, especially the posterior, which are furnished with two pair of spurs* (8†). *Tarsi long and 5-jointed. Claws minute.*Obs. *The head (figures 7 and 7\*) are from A. fasciella.*

FRISCHELLA Linn.—Curt. Guide, Gen. 1002. 4.

Shining golden-ochre: antennæ rather longer in the male than female, silvery or white, the basal portion fuscous, rosy at the base, with some short black pile on the inside in the male; head clothed with ochreous hairs: thorax metallic: superior wings with a crimson tinge on the costa and cilia, and an ovate paler spot, dotted with black, towards the apex: inferior yellowish crimson; cilia metallic at the base, fuscous at the apex.

*In the Author's and other Cabinets.*

SOME of these charming little Moths are most splendid in their colours: they delight to sport about in the sun in woods, where they fly in small swarms like gnats.

The long setaceous antennæ, hairy heads and palpi, and colour of the wings in some, as well as the manner in which they rest, give the Adelæ an aspect very similar to Leptocerus (pl. 57), and they may be considered one amongst the many approaches that the Lepidoptera make to the Trichoptera.

The maxillæ are remarkable for the long hairs with which they are clothed, and the labial palpi were never before detected.

The following are British species of the genus *Adela* :—

1. *Robertella* Linn.—*pilella* Hüb. *Tin. pl.* 34. *f.* 235.

Chalky places near Cottingham, Yorkshire, b. June.

2. *Panzerella* Fab.—Hüb. 61. 412.—*Swammerdamella* Hüb. 19. 127.?

End of May to middle of June, chalky places, Kent, Colingborne Wood, Wilts, and near Teignmouth, Mr. Dale.

3. *Swammerdamella* Linn.—Hüb. 62. 410 & 411.

Beginning of May, amongst furze-bushes, Coomb Wood, Mr. C. J. Thompson, and female on birch-trees, J. C.; Glanville's Wootton, Mr. Dale.

4. *Frischella* Linn.—Curt. *Brit. Ent. pl.* 463. ♀.—Hüb. 63. 425 & 426.—These are much smaller than our British specimens, the natural size of which is given in the outline figure represented walking.

On flowers in Kent: male, May 9th, Glanville's Wootton; and female, end of July, Grymes Dyke, Mr. Dale.

5. *viridella* Fab.—*sphingiella* Hüb. 19. 129.—*Reaumurella* Linn.?—He says "*Frons alba*," which makes it doubtful whether this be his insect; yet I am disposed to believe that it is, as the female of *A. viridella* has a pale crown to the head.

6. *Scabiosella* Scop.—*viridella* Hüb. 19. 128.—*cuprella* Haw.

On flowers of the Scabious, Darent Wood and near Exeter.

- 6<sup>a</sup>. *cuprella* Fab.—Hüb. 27. 185.

A species new to Britain, and taken by Mr. Dale at Glanville's Wootton the end of May, will, I think, prove to be this insect.

7. *fasciella* Fab.—*Schiffermyllerella* Hüb. 19. 132.

Beginning and end of June, Darent Lane and Gravesend about nettles, J. C.; Axbridge, Somerset; Clapham-park Wood, Bedfordshire; b. July near Weymouth; b. August, Knowle Hill; and Middle-marsh Woods, Dorset, Mr. Dale.

8. *DeGeerella* Linn.—Don. 8. 267. 1 & 2.—*striatella* Fab. var.?—*Geerella* Hüb. 19. 130. & 67. 446.

B. June and b. July borders of woods; near Southampton, J. C.; Bagley Wood, Berks; New Forest, and Monk's Wood, Mr. Dale.

9. *Sulzella* Linn.—Hüb. 18. 121.—*Podælla* Linn. is the female probably.—Don. 8. 267. 3.

June, hedges, moist lanes, and flying round an oak at Wrentham, Suffolk, J. C.; end of May, Glanville's Wootton.

10. *Latreillella* Hüb. 52. 355 & 356.

Taken by Mr. Weaver.

The Plant is *Scirpus* (*Isoleptis*) *setaceus* (Least Club-rush), communicated by J. J. Bennett, Esq.







# ŒCOPHORA SULPHURELLA.

The Yellow Underwinged Thick-horn.

ORDER Lepidoptera. FAM. Tineidæ.

*Type of the Genus, Tinea sulphurella Fab.*

ŒCOPHORA Lat., Curt.—Dasycera Haw.—Elasmia Hüb.—Tinea Fab., Hüb.

*Antennæ* inserted on each side the crown of the head close to the eyes, not longer than the body, setaceous, appearing rather stout at the base, clothed with scales above, pilose beneath in the male (1 ♂); composed of numerous oblong joints, basal joint the longest, stoutest, and subclavate.

*Maxillæ* longer than the palpi, spiral, rather stout and clothed with scales, attenuated to the apex which is naked (3).

*Labial Palpi* longer than the head, curved upward, slender, clothed with scales, especially the 2nd joint, the terminal one appearing naked (4); basal joint rather short, 2nd very long, slightly curved, 3rd scarcely shorter, very slender and attenuated to a point (4a).

Head clothed with depressed imbricated scales. Eyes globose (7 and 7\*).

Thorax clothed with depressed scales. Wings very much deflexed when at rest, the inferior margins meeting over the back; superior long and narrow, regularly ciliated; inferior rather small and sublanceolated, the cilia very ample. Abdomen linear and tufted in the male: longer and conical in the female. Legs, posterior pair the longest. Tibiæ, anterior shorter than the thighs, rather stout with a long internal spine, the others spurred at the apex, the posterior pair long and very pilose, with a pair of spurs also at the middle, one of them very long. Tarsi 5-jointed, basal joint the longest. Claws very minute.

Caterpillars with 16? feet.

SULPHURELLA Fab. *Ent. Syst.* 3. pars 2. 315. 128.—Curt. *Guide, Gen.* 1003. 2.—flavella Fab. *E. S.* 332. 9. ♀.—cornutella Fab. *E. S. Supp.* 492. 63. ♀.—orbonella Hüb. *Tin. pl.* 45. f. 313. ♂.

*In the Author's and other Cabinets.*

THIS pretty genus contains only two British species; they fly during the day in fine weather, and are sometimes very abundant in the neighbourhood of London. It may, however, be useful to observe, that a species of Œcophora, called by the French “la teigne des bleds,” has made very great ravages (I suppose in the larva state) in the South of France, by devour-

ing the grain. Mons. Latreille, who notices this in his *Histoire Naturelle*, says that he was unable to make out the species from the imperfect state of the specimens submitted for his examination.

1. *Æ. Olivella* *Fab.*—*Æmulella* *Hüb. Tin. pl. 32. f. 222.*

Black with an orange tint; antennæ metallic-purple, with 6 or 7 articulations towards the apex white, the scales elongated on the outside as far as the middle in the males; maxillæ and palpi ochreous; head cupreous; thorax with a yellow stripe on each side: superior wings, beyond the middle, sprinkled with minute yellow scales; at the base is a cordate yellow spot with a chalybeous stripe on the superior margin, and a transverse striga beyond it of the same metallic tint; across the centre is a yellow fascia with a lunulate chalybeous spot beyond it touching the costa.

This beautiful species I find the middle of June in the Regent's Park, flying about in the sunshine in the morning, and settling on the pales.

2. *Æ. sulphurella* *Fab.*—*Curt. Brit. Ent. pl. 408. female.*

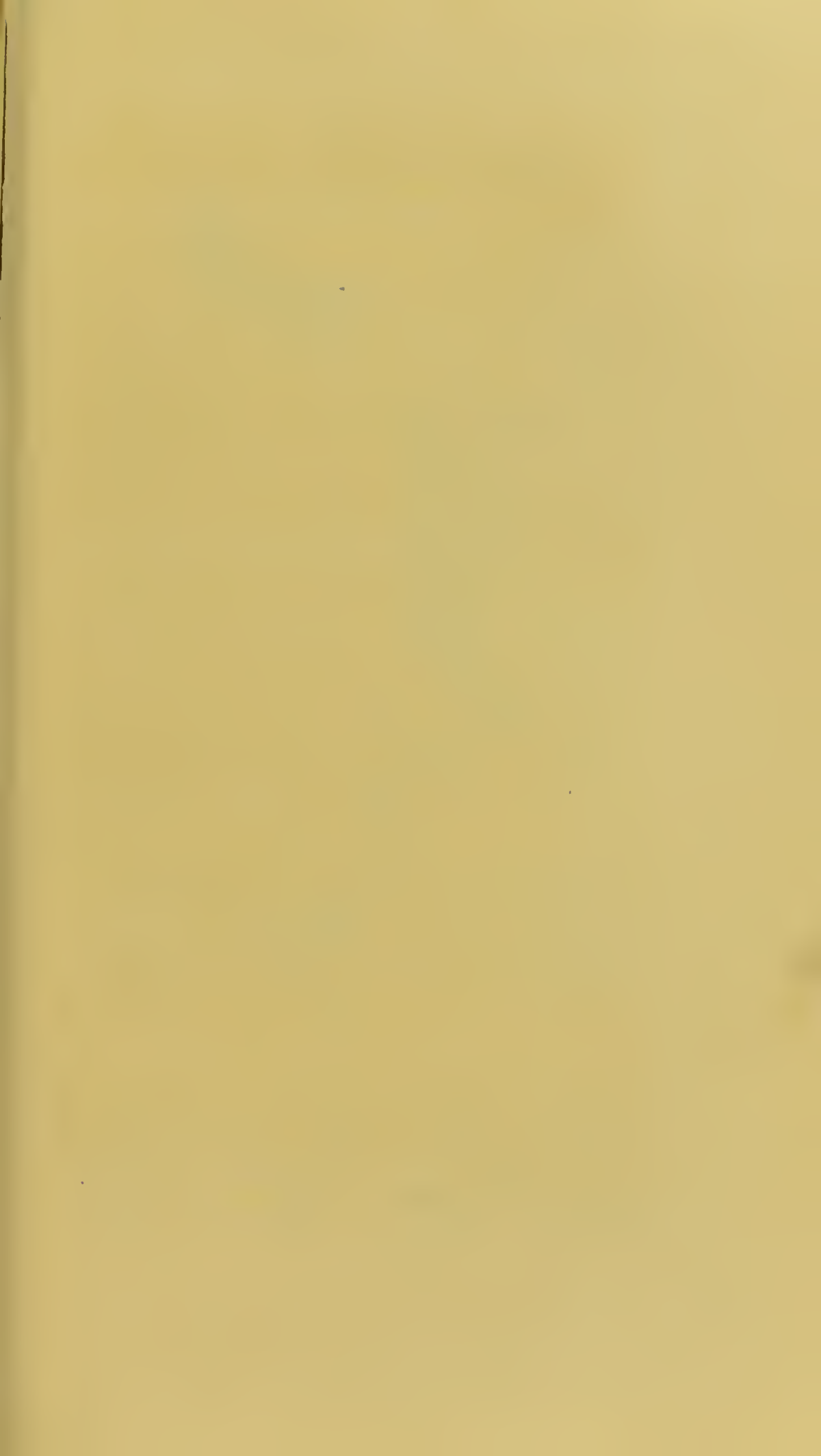
*Male*, blackish-purple; antennæ shining blue-black, with 3 of the articulations towards the apex white: palpi, maxillæ, and sides of the head ochreous; thorax with a yellow stripe down each side; anterior wings sprinkled with minute yellow scales, with a yellow costal stripe and sometimes an obscure one along the middle, and a triangular yellow spot near the posterior angle; inferior wings orange ochre, a small portion at the base, the superior margin, the apex and the cilia blackish.

*Female*, with the superior wing variegated with deep dull blue, the costal and central yellow lines very distinct, with a yellow spot on the costa opposite the posterior angle. Abdomen with the margins of the segments ochreous.

*Obs.* The outline figure shows a male at rest of the natural size.

Fabricius says this species inhabits old oak-wood, and that the larva is three years before the metamorphosis is completed. The Caterpillars were found alive at Christmas under the bark of a dead tree at Fulham by C. J. Thompson, Esq.; they appear to feed on the inner bark, and were forming cases like the *Tineæ*. The Moth occurs in great abundance, flying about and resting upon the paling of the Regent's Park, sometimes as early as the end of April, but this year I did not see any till the 2nd of May.

The Plant is *Ranunculus bulbosus* (Bulbous Crowfoot).







# APLOTA ROBERTSONELLA.

The Wanstead Grey.

ORDER Lepidoptera.

FAM. Tineidæ.

*Type of the Genus, Tinca bicostella Linn.*

APLOTA *Step.*, *Curt.*—Palpula and Rhinosia *Och.*—Macrochila *Step.*  
—Ypsolophus *Haw.*—Alucita *Fab.*—Tinca *Linn.*, *Fab.*, *Hüb.*

*Antennæ* concealed in repose, inserted close to the eyes and a little before them, as long as the body, very slender, setaceous, clothed with scales above, pubescent beneath (1).

*Maxillæ* slender, spiral, nearly as long as the antennæ, scaly outside at the base (3).

*Labial Palpi* very long, porrected, divaricating (7, 4), compressed, densely clothed with scales, triarticulate, basal joint small, 2nd very long, cylindrical, the scales projecting far beyond the apex and forming a brush, 3rd joint long, very slender acute and naked, more or less elevated and looking like a spine amongst the long scales at the apex of the 2nd joint (4).

Head small, the scales meeting on the crown, and projecting in front over the forehead (7 and 7\*). Thorax subglobose. Abdomen slender, tufted at the apex. Wings very ample, much longer than the body, convoluted or decumbent, superior lanceolate; inferior ovate, with long cilia. Legs, anterior the shortest, with a long spine on the inside near the apex, the others terminated by a pair of long spurs, the hinder stout and clothed with long scales outside, with a pair of spurs a little below the middle, longer than those at the apex: tarsi long and 5-jointed: claws and pulvilli minute (8†).

Larvæ unknown.

ROBERTSONELLA *Curt. Guide, Gen.* 1005. 1<sup>b</sup>.

Maxillæ rather short: palpi with the scales projecting very far beyond the apex; 3rd joint nearly as long as the 2nd, recurved: delicate light grey with a slight ochreous tinge; antennæ dotted with black; superior wings freckled with pale brown, the costa slightly concave, with oblique brown spots, the apex and posterior margin with three fine brown lines; a few black dots along the disc; apex of abdomen ochreous: Obs. some specimens are much darker.

*In the Cabinets of Mr. Robertson, the Author, &c.*

THE numerous shades of difference in the length and relative proportions of the palpi in this group have led to the formation of several sections, which if regarded as such are undoubtedly valuable, as nothing tends more essentially to the accurate investigation of groups; but it is only adding a dead weight to science to give them names, if they be not entitled to such a

distinction. With this view of the subject I have considered the following British insects as forming one genus :

\* *APLOTA* *Step.*

1. *palpella* *Haw.* 545. 24.—*Wood*, *pl.* 40. *f.* 1249.

Anterior wings fuscous with 3 black dots, the usual stria very obscure and paler.

“ Found the beginning of July in a field of Trefoil near Ripley.” *Step. Ill.*

\*\* *PALPULA* *Och.*—*PLUROTA* *Hüb.*

- 1<sup>b</sup>. *Robertsonella* *Curt. Brit. Ent. pl.* 655. ♀.

As this appears to be a new species, I have named it after G. Robertson, Esq., who took it amongst Furz-bushes on Wanstead Flats in July, and I am indebted to him for the specimen figured as well as for darker varieties. Mr. Dale has bred it, but unfortunately he does not remember the caterpillar.

2. *aristella* *Linn. Syst. Nat.* 2. 894. 416.

“ Whitish, wings with a silvery line, palpi porrected, longer than the head, furnished with a bristle.” The palpi are twice as long as the head and thorax : I believe it has only been taken in Portugal.

3. *bicostella* *Linn.—Hüb.* 17. 115.—*Tinea marginella* *Fab.*

Anterior wings cinereous-white, costa fuscous, the margin white.

June, near Edinburgh, I believe; near Settle, Darent Wood, Dover, New Forest, amongst furz on Parley Heath, and also at Winfreth, Dorset, Mr. Dale.

4. *marginella* *Alucita* *Fab. Ent. Syst. v.* 3. *B.* 333. 13.—*Don.* 2. 58. 2.—*striatella* *Hüb.* 23. 154.—*Clarella* *Treit.*

Anterior wings ochreous, the costa and inferior margin pure white.

End of July, amongst the Juniper in Birch Wood, also at Darent, Faversham, and Dover.

5. *parenthesella* *Linn.—semicostella* *Hüb.* 59. 396.

Anterior wings fuscous grey; basal portion of the costa white, with 2 obscure black dots on the disc.

June, Blackheath; end of July, Shooter's Hill, Kent.

*RHINOSIA* *Och.*—*OXYBELIA* *Hüb.*

6. *fasciella* *Hüb. pl.* 16. *f.* 111.

Anterior wings ferruginous, with 2 obscure oblique fasciæ.

Beginning of June, amongst grass, and in barren places in the New Forest; Walworth and Darent Wood in July; beginning of August, Coomb Wood.

The Plant, *Andromeda polifolia*, Wild Rosemary, was communicated by T. C. Heysham, Esq.





*Pub. by J. Purdie & Co. July 1. 1828*

## DEPRESSARIA BLUNTII.

ORDER Lepidoptera. FAM. Tortrices *Lat.**Type of the Genus Pyralis Heracleana Fab.*DEPRESSARIA *Haw.*—Volucra *Lat.*—Pyralis *Fab.*—Tinea *Fab., Hüb.*  
—Tortrix *Linn.**Antennæ* remote, inserted close to the eyes on the crown of the head, filiform, clothed with scales, basal joint long, slender, sub-clavate, producing a few bristly scales on the upper side, the following joints transverse (1).*Maxillæ* spiral, not longer than the palpi, rather robust and clothed externally with scales (3).*Labial Palpi* slightly divaricating when viewed in front (7, 4), long and curved upward, the 2nd joint covered with long and broad scales, the 3rd appearing naked (7 a, 4); composed of 3 joints, the basal one rather short and drooping, 2d long, slender and curved, 3rd nearly vertical, very slender, attenuated, considerably shorter than the 2nd (4 a).

Head broad, covered with broad imbricated scales (7). Eyes rather small. Ocelli very minute, placed behind the antennæ (7 a). Wings horizontal and incumbent when at rest, longer than the body, superior linear lanceolate (9). Cilia of inferior wings long. Abdomen broad and depressed, producing small fascicles of hair down the sides (which are sometimes recurved) and at the apex. Legs, anterior very short, the tibia producing a brush of hair only on the internal side, the others spurred at the apex, the posterior having 2 spurs also at the middle. Tarsi 5-jointed. Claws and Pulvilli minute.

Caterpillars with 6 pectoral, 8 abdominal and 2 anal feet.

Pupæ inclosed in a loose web formed amongst the flowers and seed-vessels of plants.

BLUNTII *Nob.*

Head, palpi, thorax, and legs pale ochre; eyes black: superior wings purplish castaneous palest at the costa, with a double irregular oval mark on the disc of a dirty white colour; abdomen and inferior wings pale fuscous.

*In the Cabinets of Mr. Dale and the Author.*

DEPRESSARIA may be distinguished from Anacamptis which it most resembles, by the very flat bodies of both sexes, the more obtuse wings and the shorter and less recurved palpi.



The following are our British species :

1. *D. Heraclei* Haw.—*Heracleana* Linn. ? *Fab.*, *Reaum.* 2. *tab.* 6. *f.* 1—4. Middle of March and beginning of October.
2. *characterosa* Haw. 511. 18. Middle of Aug. Dover.
3. *badia* Haw.—*badiella* Hüb. *Tin.* *pl.* 14. *f.* 92. Norfolk.
4. *apiosa* Haw.—*apicella* Hüb. *Tin.* 14. 94.
5. *albipuncta* Haw.—*albipunctella* Hüb. *Tin.* 22. 149.
6. *liturosa* Haw.—*liturella* Hüb. *Tin.* 12. 83.
7. *curvipunctosa* Haw.—Beginning of March; in hedges.
8. *applana* *Fab.*, Haw.—*cicutella* Hüb. *Tin.* 12. 79. All the year round; in hedges, gardens, outhouses, &c.
9. *purpurea* Haw. April and e. of Aug. Houses in Hants.
10. *Alstræmeri* Haw.—*Alstræmeriana* Linn., *Fab.*—*puella* Hüb. *Tin.* 12. 82. April, September and October; in hedges, osier-grounds, &c.
11. *costosa* Haw. Near London.
12. *gilvosa* Haw.—*gilvella* Hüb. *Tin.* 14. 96. End of April, August, and beginning of September; on the sea coast and in osier-grounds.
13. *signosa* Haw.—*signella* Hüb. *Tin.* 12. 80. April and beginning of September; in osier-grounds, &c.
14. *atomosa* Haw.—*atomella* ? Hüb. *Tin.* 35. 240. August; under stones. Dover.
15. *venosa* Haw. Middle of June; Regent's Park.—Middle of August; Dover.
16. *flavosa* Haw.—*flavella* Hüb. *Tin.* 14. 97.—*Sparmaniana*, *Fab.* Middle of Aug.; under stones; Dover.
17. *Yeatsii* Haw.—*Yatesana* *Fab.*—*albidana* *Don.* 11. 377. 2. Coombe Wood and Godstone, Surrey.
18. *nervosa* Haw. Near London.
19. *putrida* Haw.—*putridella* Hüb. *Tin.* 35. 244.
20. *umbellarum* Haw.—*umbellana* *Fab.* End of August; on furze-bushes; Parley Heath, Hants.
21. *Bluntii* *Curtis* *Br. Ent. pl.* 221. I have the melancholy satisfaction of dedicating this pretty insect to the memory of the late Mr. Edward Blunt, F.L.S., who took it in July at Southchurch, Essex; and the end of the following April I bred some from chrysalides contained in his cages. His friend Mr. Christopher Parsons informs me that he has also found it in gardens and outhouses at the same place.

*Pastinaca sativa* (Wild Parsnep) figured in the plate is the plant upon which I found the caterpillars of *D. Heraclei* feeding, at Dover, in the middle of August.





*Pub by J. Curtis Nov 1 1827*

## ANACAMPSIS LONGICORNIS.

ORDER Lepidoptera. FAM. Tortrices *Lat.**Type of the Genus Tinea Populella Linn.*ANACAMPSIS *Nob.* Voluera ? *Lat.*—*Pyrallis Lat.*—*Tinea Fab.*—*Phalæna (Tinea) Linn.*

*Antennæ* alike in both sexes, remote, inserted close to the eyes (fig. 1) ; rather long and capillary, composed of numerous oblong joints, covered with short scales, the basal one subelavate. *Maxillæ* spiral, robust, shorter than the palpi, clothed with long scales externally (3).

*Labial Palpi* longer than the head, diverging, recurved, thickly covered with scales, those on the basal joint the broadest, forming a tuft on the inside (4) ; 3-jointed, 1st joint short clavate, 2nd very long robust cylindric curved, 3rd longer setaceous, slender and acuminate (4 a).

Head covered with close broad imbricated scales (7). Eyes not very small. Ocelli 2, placed behind the antennæ (7 a). Wings horizontal and incumbent when at rest, longer than the body ; superior linear lanceolate ; inferior lanceolate, the cilia of the latter very long. Abdomen of the male sometimes depressed. Legs ; posterior pair the longest. Thighs rather short. Tibiæ ; anterior the shortest, with long scales only on the internal side, the others spurred at the apex, the posterior having 2 spurs also at the middle. Tarsi 5-jointed. Claws and Pulvilli minute (8†, a hind leg). Caterpillars with 16 feet.

LONGICORNIS *Nob.*

Griseous ; Head and thorax pale ferruginous sprinkled with brown. Antennæ nearly as long as the wings, black towards their apex. Abdomen dull black, the margins of the segments dull white. Wings ; superior very long, sprinkled with black, an oblique abbreviated fæcia near the base, one before and another beyond the middle pale ferruginous ; the 1st and last with a large black spot on each, the intermediate having two elongated black spots, and a larger oval oblique black spot also next the posterior margin. Cilia fuscous, variegated with black. Inferior wings pale fuscous inclining to yellow. Legs ; anterior black above, posterior whitish, annulated with fuscous.

Obs. Some specimens are much darker and the markings more obscure.

*In the Author's Cabinet.*

LATREILLE having included *Pyrallis Heracleana* Fab. in his family of Tortrices, there can be little doubt of the propriety of associating our genus with that group ; at the same time we must acknowledge that their situation does not appear to be

natural: the smaller moths, however, are so imperfectly understood, that it is impossible at present to determine the locations of many of them.

We regret that this extensive genus, which has been formed by Mr. Haworth, has not yet appeared in his *Lepidoptera Britannica*: we feel however, the more obliged to this gentleman for liberally allowing us to copy the following list from his MS.; it will be serviceable to lepidopterists, since the cabinet of that acute entomologist has been the source from whence we have derived the names by which the species are known.

|                                                               |                                                         |
|---------------------------------------------------------------|---------------------------------------------------------|
| 1 <i>A. cinerea</i> L., <i>Hüb.</i>                           | 18 <i>A. domestica</i> Haw.                             |
| 2 <i>subcinerea</i> Haw.                                      | 19 <i>affinis</i> Haw.                                  |
| 3 <i>longicornis</i> Nob.                                     | 20 <i>diffinis</i> Haw.                                 |
| 4 <i>Juniperi</i> L., <i>Hüb.</i>                             | 21 <i>contigua</i> Haw.                                 |
| 5 <i>Populi</i> L.                                            | 22 <i>sequax</i> <i>Hüb.</i> —6-punctella F. ?          |
| 6 <i>rustica</i> <i>Hüb.</i>                                  | 23 <i>proxima</i> Haw.                                  |
| 7 <i>Listeri</i> L. ?                                         | 24 <i>maculea</i> F.                                    |
| 8 <i>nebulea</i> Haw. — <i>Populella</i> <i>Hüb.</i>          | 25 <i>Clematea</i> F. — <i>Alucita nivella</i> F. ?     |
| 9 <i>Betulea</i> <i>Hüb.</i>                                  | 26 <i>Blattariæ</i> <i>Hüb.</i>                         |
| 10 <i>lutarea</i> Haw. — <i>Verbascella</i> <i>Hüb.</i> ?     | 27 <i>subrosea</i> Haw.                                 |
| 11 <i>rhombea</i> Haw., <i>Hüb.</i> — <i>Moufettella</i> L. ? | 28 <i>guttifera</i> Haw.                                |
| 12 <i>dodecea</i> L. ?                                        | 29 <i>marmorea</i> Haw.                                 |
| 13 <i>aspera</i> Haw. — <i>Schellenbergella</i> F. ?          | 30 <i>atra</i> Haw. — <i>exiguella</i> F. ? <i>Hüb.</i> |
| 14 <i>nigra</i> Haw.                                          | 31 <i>nana</i> <i>Hüb.</i> — <i>aleella</i> F.          |
| 15 <i>sarcitea</i> L. ?                                       | 32 <i>nivea</i> F. ?                                    |
| 16 <i>punctifera</i> Haw. — <i>Pedisequella</i> <i>Hüb.</i> ? | 33 <i>interrupta</i> <i>Hüb.</i> ?                      |
| 17 <i>Hübneri</i> Haw. — <i>Granella</i> <i>Hüb.</i>          | 34 <i>fulvescens</i> Haw.                               |
|                                                               | 35 <i>fuscescens</i> Haw.                               |

In the above list the Linnæan termination has been dropped, and for the sake of brevity the name has not been repeated; but in the works of Linnæus the names are '*cinerella*,' '*Juniperella*,' &c.

The pretty and distinct undescribed species figured, I bought of Mr. Weaver, who took it, I think, in Derbyshire; and I have since seen a male taken last summer by some ladies in Scotland.

*Sanicula europæa* (Common Sanicle) is figured in the plate.







*Chrysomelidae: Chrysomelinae*

## LAVERNA OCHRACEELLA.

Ochreous Laverna.

ORDER Lepidoptera.

FAM. Tineidæ.

*Type of the Genus, Laverna ochraceella Curt.*

LAVERNA Curt.—Anacampsis Curt.

*Antennæ* alike in both sexes, remote, inserted on each side of the crown close to the eyes, rather longer than the body and capillary, clothed with short scales, basal joint long and clavate, the remainder short (1, a portion of the base).

*Maxillæ* spiral, tapering, as long as the palpi, clothed with scales externally at the base (3).

*Labial palpi* much longer than the head, diverging, recurved but not above the head, rather long, 2nd joint densely clothed with scales (4); triarticulate, basal joint shortish, curved, clavate, 2nd very long, curved, slightly clavate, 3rd scarcely so long, very slender, tapering and acute (4 a), clothed with very short scales.

Head short and broad, clothed with small depressed scales (7 the face, 7\* the profile): eyes small. Thorax subglobose. Abdomen not depressed, shortish, narrow and tufted in the males, the apex conical in the females. Wings horizontal and incumbent? when at rest, longer than the body, superior linear, lanceolate, apex acute; cilia longish: inferior lanceolate, very narrow, cilia long and extending round the wing. Legs, anterior short, hinder long and stout: thighs short: tibiæ, anterior small, intermediate with a pair of unequal spurs at the apex; hinder long, stout and hairy outside, with longish spurs at the apex and a pair a little below the middle: tarsi 5-jointed, basal joint the longest: claws and pulvilli minute.

OCHRACEELLA Curt. MSS.—*Guide, Gen. 1009<sup>b</sup>.*

Pale ochreous; antennæ dotted; superior wings with deep ochreous or ferruginous clouds, forming several pale patches, the cilia dotted at the apex with the same colour; inferior wings silky yellowish white, cilia ochreous.

*In the Cabinets of Mr. Robertson, Mr. Bentley, and the Author.*

I ESTABLISHED the genus *Anacampsis* in the 4th vol. of this Work, folio 189, and finding that a portion of that extensive group differs essentially from the typical form, I am induced to propose a new genus for them. Amongst the most prominent distinctions are the much broader head, shorter and less elevated palpi, rather longer and more slender maxillæ, more lanceolate superior wings, and very narrow and lanceolate inferior wings; this last character at once distinguishes

the two groups, for in *Anacampsis* they are broad with the apex truncated obliquely, as represented at fig. 9, and of course the neuration is totally different.

The following are the only British species I have been able at present to recognise:

1. *sarcitella* Linn.—*Guide*, Gen. 1009, No. 17.—*Wood*, pl. 39. f. 1207.

Wings hoary-gray or cinereous, clouded with black, head, thorax and a spot at the base of the superior wings white: expansion 6 to 8 lines.

It is very remarkable that, common as this insect is, I do not remember any figure of it excepting Mr. Wood's; the one referred to in Roesel by Linnæus is not only different, but absolutely belongs to another genus, which is evident from the deflexion of the wings. The *L. sarcitella* is a most mischievous little moth in our houses, where it is common the greater portion of the spring and summer months, and I have frequently observed it on the trunks of fruit-trees in gardens as late as September. The female deposits her eggs upon clothes and woollen articles, on which the larvæ feed, living in cases which they form of the wool, and in which they become pupæ.

2. *marmorea* Haw. 553. 29.—*Guide*, No. 29.

"Anterior wings variegated with black, white and red, somewhat clouded: expansion 6 lines." Haw.

Wood's fig. 1218 is a variety of his No. 1206, which is the *T. luculella* Hüb., and not the *T. luctuella* of that author, which is a totally different insect. The above two figures of Wood are the *R. subrosea* of Haworth, which was given in the *Guide* as identical with Hübner's *T. luculella* ten years since.

June, Norfolk, Birch-wood, and the New Forest.

3. *atra* Haw. 553, 30.—*Guide*, No. 32.—*Wood*, fig. 1220.—*exiguella* Hüb.

"Anterior wings black, posterior blackish, head white: expansion 5 to 6 lines." Haw.

The interior margin of the superior wings is generally pale or whitish, forming an irregular stripe down the back when the wings are closed.

June, abundant in woods near London and in the New Forest.

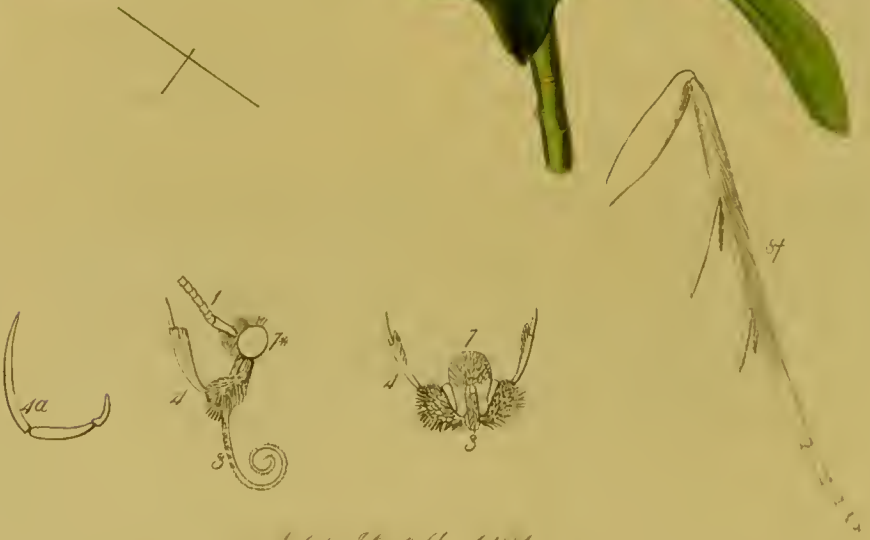
4. *ochraceella* Curt. Brit. Ent. pl. 735. ♀.

This very distinct species was discovered by that excellent Lepidopterist Mr. Bentley, 20 years since, in the month of June, resting on grass in a meadow on the banks of the river Avon, near Ringwood; several were taken last summer amongst grass on the banks of ditches in the Isle of Dogs, by Mr. Robertson, who very obligingly added it to my Cabinet.

The plant is *Knautia* (*Scabiosa*) *arvensis*, Field Scabious.







*Lab. sp. J. C. in the Aug. 1. 1851*

## CHELARIA RHOMBOIDELLA.

## The Lobster-clawed Moth.

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ORDER Lepidoptera. FAM. Tineidæ.

*Type of the Genus, Tinea rhomboidella Linn.*

CHELARIA Haw.—Phalæna Don.—Tinea Linn. Hüb.

*Antennæ* inserted close to the eyes, on each side the front of the head, as long as the body, capillary, clothed with scales, basal joint long, the remainder short (1).

*Maxillæ* long slender and spiral, shorter than the antennæ, clothed with scales nearly to the apex, which is furnished with short glands (3).

*Labial Palpi* very long, recurved, divaricating, clothed with scales, triarticulate, basal joint concealed by the eyes, 2nd joint long, producing long scales beneath, 3rd joint equal to the united length of the others, curved attenuated and pointed, with the scales longest above, leaving a portion of the apex naked (4 and 4 a).

Head small, globular, clothed with depressed scales. Eyes globose (7 and 7\*.) Wings, superior long, narrow and sub lanceolate: inferior rather broader and acute; the cilia long. Abdomen slender, tufted at the apex in the males and conical in the females. Legs, anterior the shortest, with an internal spine on the Tibia, the posterior pair very long, clothed externally with long scales, furnished with 2 pair of unequal spines. Tarsi 5-jointed, basal joint the longest. Claws minute (8†, hind leg).

Larva and Pupa unknown.

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RHOMBOIDELLA Linn. Faun. Suec. 356. 1372.—Curt. Guide, Gen. 1012. conscriptella Hüb. Tin. 41. 283.—Hübnerella Don. 11. pl. 382. 2.—conscripta Haw. p. 526.

Dirty ochre. Palpi with the scales on the outside of the 2nd joint at the middle, and the 3rd towards the tip of the brush, dark brown. Antennæ spotted with black towards their tips: eyes brown. Superior wings slightly variegated with darker scales, with a large somewhat trigonate brown spot near the middle of the costa, with 2 costal dots near the base, and 4 or 5 paler ones towards the apex, near which is a longitudinal blackish line, and sometimes 2 dots, approaching the centre: inferior wings shining iridescent gray, shaded into fuscous at the margin: cilia ochreous fuscous.

*In the Author's and other Cabinets.*

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AN error has been committed in the "Guide" by referring this insect to Latreille's genus *Cerostoma*, which appears to be synonymous with *Ypsolophus*: I have now the pleasure of adopting Mr. Haworth's name, which was given in his *Lepidoptera Britannica*, where the genus is characterized: *Chelaria* has been selected for it, from its curious palpi having some resemblance to the claws of a Lobster or the mandibles of a Chelifer. (See Kirby and Spence's *Introd. to Entomol. pl. 5. f. 4.*)

Remarkable as this little Moth is, we know nothing of its economy; the Caterpillar and Pupa do not appear to be described or figured, and it is simply stated by Linnæus and Fabricius that the Imago lives in woods. Mr. Donovan, who believed it to be a nondescript, says it was taken in the vicinity of Feversham, Kent; it is however by no means a rare insect; I have frequently found it in Norfolk and in the neighbourhood of London, towards the end of August, generally I think in gardens; and Mr. Dale meets with it in similar situations in Dorsetshire.

In dissecting the Moth, I was unable to discover the anterior (maxillary) Palpi, mentioned by Mr. Haworth: it must also be observed that the basal joint of the labial palpi is concealed in the mouth, and that the long bundle of hairy scales which clothes the greater part of the 3rd joint, gives the naked and terminal portion the appearance of a 4th joint.

The Plant is *Daphne Laureola* (Laurel Mezereon), communicated by the Rev. Professor Henslow from Hinton near Cambridge.





drawn by S. Carter. & colored by J.



## CLEODORA CYTISELLA.

## The Broom Tinea.

ORDER Lepidoptera.

FAM. Tineidæ.

*Type of the Genus, Tinea Silacella Hüb. ?*CLEODORA *Step., Curt.*—Mesophleps *Hüb.*—Recurvaria *Haw.*—Tinea *Hüb.*

*Antennæ* inserted close to the eyes in front of the forehead (7 \*), shorter than the wings, very slender and capillary, somewhat serrated or knotted, especially towards the apex (1).

*Maxillæ* at least as long as the palpi, slender, spiral, clothed with scales externally the greater portion of their length, without tentacula at the apex (3).

*Labial palpi* long, curved, porrected horizontally far beyond the head, spreading very much (4), triarticulate, basal joint elongate-clavate, 2nd very long, linear but slightly curved and densely clothed with scales, very hairy beneath, 3rd joint rather shorter, very slender, tapering and pointed (a).

Head *small and globose, clothed with broad shining depressed scales (7 the face): eyes small lateral and ovate. Thorax smooth. Abdomen rather short, tufted at the apex in the male, conical in the female. Wings subcylindric in repose, superior long narrow and lanceolate, the cilia continued far above the apex, and gradually becoming very long below it; inferior as broad as the others, but rather shorter, linear, a little narrowed at the base, the apex acuminate, ciliated quite round, the cilia very long beneath. Legs, hinder long: tibiæ, anterior not short, with an internal spine near the apex, the others with a pair of unequal spurs at the apex, the hinder long stout and hairy outside, with another pair of spurs above the middle (8 †): tarsi slender and 5-jointed. Obs. The species dissected was C. Cytisella.*

*Larvæ with 6 pectoral, 8 abdominal and 2 anal feet.*

CYTISELLA *Curt. Guide, Gen. 1013. 7.*

Fuscous, head and palpi whitish, excepting the tip of the 2nd joint: thorax whitish or ochreous: superior wings sometimes ochreous, the costa more or less fuscous, with an oblique narrow white streak issuing from it near the apex, and pointing outward; a black line at the base of the cilia next the costa, with 4 white dots behind it. *Obs.* In some specimens the semilunate white streak is very indistinct.

*In the Cabinets of Mr. Bentley, the Author, &c.*

HAVING but few specimens of this group I am unable to speak with certainty, but it appears to me that the palpi are stouter, with a shorter terminal joint, in the male than they are in the other sex; this however may arise in my examples from the palpi being rubbed in the female.

Of the habits and œconomy of this group I am ignorant, but the typical species as well as that before us are well distinguished by the form of the underwings, which are suddenly acuminate, somewhat like the wings of a Swallow. The species recorded are:

1. *Silacea* *Haw.* p. 555. 36.—*Wilks's But.* pl. 1. f. a. 10?—*Silacella* *Hüb.*? pl. 17. f. 117.

"Superior wings subochreous, with 2 remote little fuscous dots on the disc, one behind the other, inferior wings fuscous, shining: 7 to 9 lines in expanse." *Haw.*

Although Mr. Haworth refers to Hübner's figure, I doubt if it be his insect, as not only do the spots and colour of the wings differ, but the palpi if correctly represented are more clavate.

Beginning of June Coomb Wood, and end of July near Brockenhurst. The Caterpillar feeds on willows.

2. *rufescens* *Haw.* 555. 37.

"Superior wings shorter than in the preceding, and more obtuse or subtruncated, entirely rufescent, immaculate: posterior fuscous-white, cilia yellowish:  $7\frac{1}{2}$  lines." *Haw.*

The New Forest in August.

3. *nebulella* *Step.* Ill. 4. 221. 3.

Superior wings pale griseous-fuscous, clouded with brown, with a whitish subtrigonal spot on the costa near the apex; inferior wings very narrow, cinereous brown:  $5\frac{1}{2}$  to  $6\frac{1}{2}$  lines. July, near Brockenhurst, in the New Forest.

4. *ochroleucella* *Step.* 4. 221. 4.

Superior wings pale ochreous, obscurely clouded; inferior wings brownish: 6 lines.

"End of July, near Ripley, Surrey." *Step.*

5. *lucidella* *Step.* 4. 221. 5.

Superior wings with the apex somewhat acute, shining, griseous-fuscous, immaculate; inferior glossy black: 7 lines. Found with No. 3 in the New Forest.

6. *falciformis* *Haw.* 555. 38.

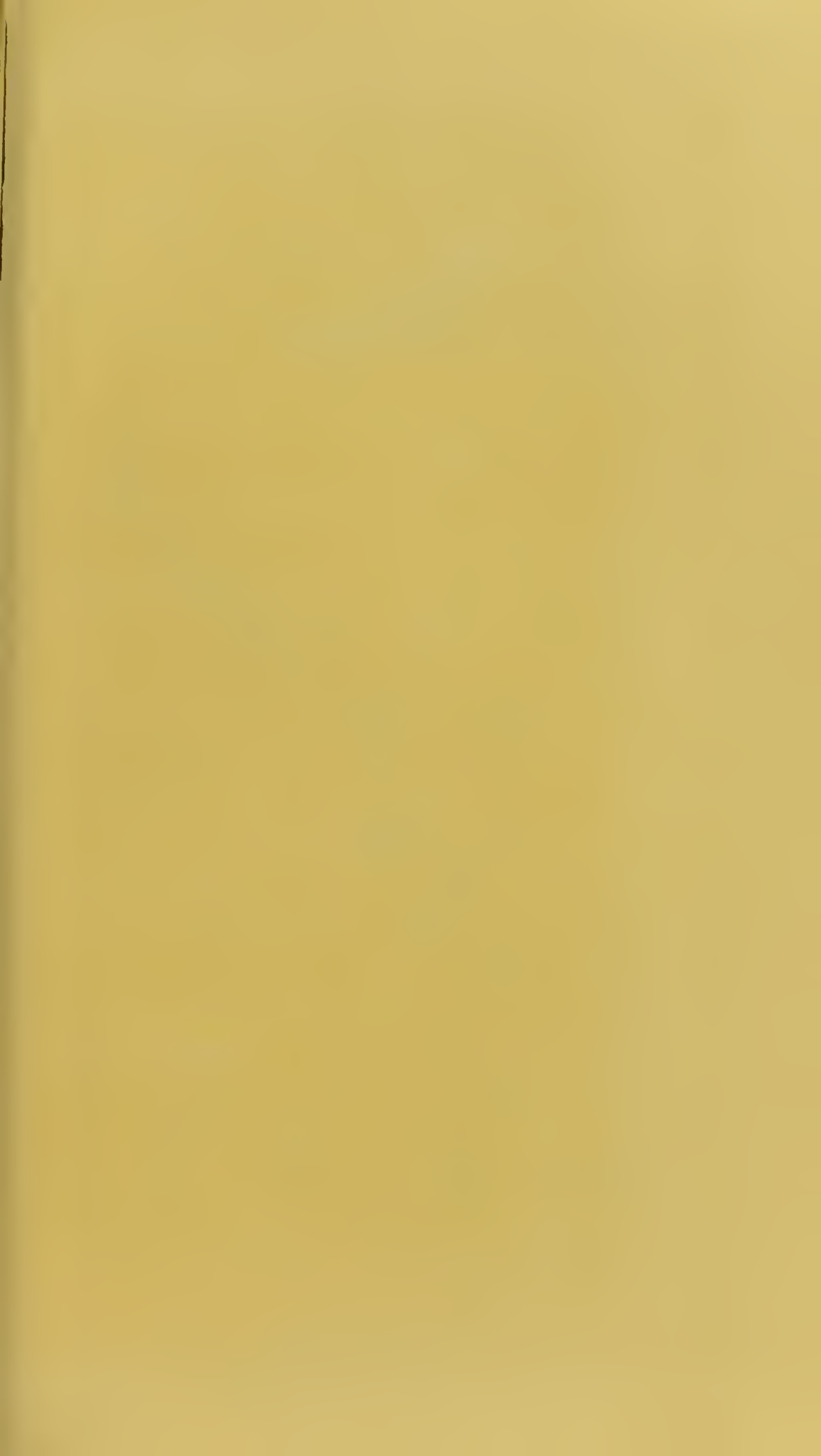
"Superior wings subfalcate, cinereous or somewhat griseous, with irregular confluent fuscous lines or streaks on the disc: cilia umber-coloured; inferior shining, fuscous lead colour: 6 lines." *Haw.*

Taken in July in Norfolk and near London.

7. *Cytisella* *Curt. Brit. Ent.* pl. 671.

I took a specimen of this distinct species the 18th July on a hill at Glengariff in Ireland, and Mr. Walker gave me one which he met with in the Isle of Wight. Mr. Bentley having observed that it frequents the broom in the vicinity of London, I have given it the specific name of *Cytisella*.

The Plant is *Artemisia vulgaris*, Mugwort.





## BATIA LUNARIS.

The lesser tawny Crescent Moth.

ORDER Lepidoptera.

FAM. Tineidæ.

*Type of the Genus, Reeurvaria lunaris Haw.*BATIA Step.—*Galanthia* Hüb.—*Reeurvaria* Haw.—*Tinea* Hüb., Don.

*Antennæ* inserted close to the eyes, on the crown of the head, moderately long and slender, composed of numerous slightly tasselled joints, hairy beneath, the basal joint rather long elavate and a little eurved (1).

*Maxillæ* short, about the length of the palpi, spiral and clothed with scales outside at the base (3).

*Labial palpi* long slender recurved, divaricating (7, 4), clothed with short seales (4) triarticulate, basal joint the shortest, slightly elavate and eurved, 2nd the longest and a little the stoutest, 3rd somewhat shorter, slender and attenuated (4 a).

Head small and globose thickly clothed with scales, depressed in front, eyes a little prominent and globose (7 front view of head, 7 \* profile). Thorax small, the scales depressed. Abdomen short and slender, a little tufted at the apex in the male, conical in the female. Wings very much deflexed in repose, superior long and narrow, truncated obliquely with long spreading cilia; inferior wings lanceolate, with very long cilia, shortest above. Legs, anterior the shortest, posterior the longest: thighs, posterior short; tibiæ, anterior rather stout and as long as the thigh, the others terminated by long spurs, the hinder being very hairy, especially outside, with a pair of long spurs also towards the base: tarsi 5-jointed, basal joint the longest: claws and pulvilli minute (8 † hind leg).

Larvæ unknown.

LUNARIS Haw.—Curt. Guide, Gen. 1014. 5.

*In the Author's and other Cabinets.*

As I possess only two species of this genus, I am unable to ascertain whether they all agree in structure. Hübner's figure of *T. flavifrontella* has not the habit of the type, and Donovan's plate of *T. Panzerella* exhibits an insect very different in its contour; neither do Mr. Stephens's characters agree with these insects, for he says the maxillæ are rather long, and the posterior wings rather ample ovate, &c., and what we are to understand by his description of the palpi is very uncertain, "the basal joints," he says, are "clothed with longish scales, the apical ones rather shorter, more slender than the foregoing and as long as the other two."

The following species have been enumerated as British; they are principally distinguished from neighbouring groups by the shortness of the proboscis, and the remote situation of one pair of spurs from the apex in the hinder legs.

1. *flavifrontella* Fab.—Hüb. Tin. pl. 18. f. 126.

Expansion 12 lines: head and abdomen rufous, thorax and



superior wings cinereous, with a dark patch on the disc; inferior gray, with yellowish cilia.

July, Darent Wood and Camberwell.

2. *Panzerella* Don. 3. pl. 106. f. 4.

Expansion 15 lines. "Long, narrow. Anterior wings pale clay colour, with a dark streak down the middle, and a few minute spots of the same colour near the apex. Posterior wings almost transparent, bluish, fringe very deep, of a clay colour. End of autumn 1794, among some high grass and water plants in the vicinity of Hampstead." Don. *Brit. Ins.*

3. *saturatella* Step. "Expansion  $6\frac{1}{2}$  lines. All the wings and cilia, with the head, thorax, and body, pale ochreous brown, immaculate and glossy. Found in Darent Wood in June." Step. *Ill.*

4. *lutarella* Hüb.? *Tin.* pl. 25. f. 168. Expansion  $7\frac{3}{4}$  lines. Grayish-fuscous, head white, thorax and superior wings pale brown, cilia darker, with a fuscous dot on the disc. This does not very well agree with Mr. Stephens's description: "Anterior wings pale, tawny-luteous, and totally immaculate; cilia rather pale: posterior wings and cilia fuscous."

Taken in Coombe Wood the beginning of June.

5. *lunaris* Haw.—*Curt. Brit. Ent.* pl. 543 ♂.

Fuscous; antennæ white at the base, the remainder annulated, forehead white: thorax orange, the centre castaneous: superior wings ochreous-orange, with a broad and darker fimbria, centre yellow, costa fuscous, a triangular blackish spot near the middle of the interior margin, with a smaller and more obscure one obliquely attached to its apex, both concave externally: inferior wings pale grey, tarsi annulated with white.

Common near Chelsea on old shady pales and rails: in such situations I have generally met with it the middle of June, especially in the Regent's Park; it rests in a very singular manner, with its head bent close down and its wings projecting obliquely, as if the head were buried in the wood. This I take to be the type of the genus, and the insect named by the late Mr. Haworth *T. fusco-aurella*, which appears to be the *T. unitella* of Hüb., I think I have observed standing in the same attitude.

6. *Lambdella* Don. v. 2. pl. 57. f. 1.

Expansion 7 lines. Fuscous; superior wings ochreous-orange, costa dusky, with a brown triangular spot near the centre of the interior margin and an ovate one on the disc, uniting obliquely with the former one, both edged with white inside. Similar to No. 5 but larger.

In July 1789 the late Mr. Bentley discovered a brood in a Furze-bush on Epping Forest.

The Plant is *Antirrhinum Elatine* (Sharp-pointed Toad-flax), communicated by N. B. Ward, Esq.





## PORRECTARIA ALBICOSTA.

The white-edged Unicorn Moth.

ORDER Lepidoptera.

FAM. Tineidæ.

*Type of the Genus, Tinca Anatipennella Hüb.*

PORRECTARIA Haw., Curt.—Ornix Och.—Tinca Fab., Hüb.—Haploptilia Hüb.

*Antennæ* inserted on each side of the crown above the eyes, not so long as the body, capillary, porrected and closely united in repose, basal joint stout and elongated, clothed with long scales (1), forming a pencil at the apex in the males (1 ♂).

*Maxillæ* twice or thrice as long as the palpi, spiral and tapering, a considerable portion of the base clothed outside with scales (3).

*Labial palpi* longer than the head, porrected, divaricating, clothed with shortish scales (4), slender and triarticulate, basal joint elongate-ovate, curved, 2nd very long, a little attenuated, 3rd only half as long, sometimes less, very slender and sublanceolate (4 a).

Head small, clothed with broad depressed scales (7 front view, 7\* the profile): eyes lateral, suborbicular, not very remote beneath. Thorax ovate, scales depressed. Abdomen linear, obtuse in the male, conical and acuminate at the apex in the female; oviduct horny and exerted. Wings very much deflexed in repose, superior long, narrow, lanceolate, often falcated and acute, the cilia very long, and extending round the apex and towards the base of the interior margin: inferior much smaller, narrow, lanceolate and very acute, cilia very long and extending along the costa nearly to the base. Legs slender, posterior the longest: tibiæ, anterior not very short, simple, the others with spurs at the apex, hinder fringed with long hairs outside, with a pair of spurs also above the apex: tarsi 5-jointed; claws and pulvilli minute. (5†, hind leg). Larvæ with 6 pectoral feet, living in a case (L), in which they change to Pupæ that have the portion covering the wings extending considerably over the apex.

ALBICOSTA Haw.—Curt. Guide, Gen. 1016. 2.

White; antennæ spotted with black; eyes black; anterior wings acute and a little sithe-shaped, ochreous, brownish towards the apex, with a narrow white margin, a white line from the base to the posterior margin, and one above it on the disc not reaching the base; inferior wings pale shining cinereous, cilia darker, pale yellowish fuscous; abdomen dirty-white, legs yellowish-white, inclining to fuscous in some lights.

*In the Author's and other Cabinets.*

THESE little Moths are similar in their œconomy to *Cochleo-phasis* (fol. 487.). The Caterpillars form cases, in which they live, and walk about with them, often in a vertical direction, and they afterwards become the cocoons of the pupæ. The larvæ feed upon the parenchyma of leaves. The Moths rest

with their antennæ stretched out and closely united, like many of the Phryganidæ.

There seems to be little to distinguish this group from *Damophila* (fol. 391.), excepting the metallic hues of the latter. It is true that the antennæ are not thickened in the males, excepting the basal joint, the palpi are less recurved and the maxillæ are somewhat longer in *Porrectaria*, but these are modified in the various species. I fear Mr. Haworth was not careful in his references to Hübner, which has probably misled Mr. Wood, as his figures do not agree with those of the *Schmetterlinge*. The following are British species.

1. *argentula* Steph. Ill. 4. 287. 11.

“June, Coomb and Darent Woods.”

2. *leucapennella* Hüb. Tin. tab. 30. f. 205. not of Stephens.

3. *albicosta* Haw. 535. 7.—Curt. Brit. Ent. pl. 687. ♀.

Middle of June and beginning of July, on nettles and brambles, Darent Wood and Westerham; Settle, Yorkshire, J. C.

4. *lineolea* Haw. 534. 5.

June, grassy banks and heaths, Shirly Common; Coomb and Darent Woods.

5. *lutarea* Haw. 537. 20.

6. *gryphipennella* Hüb. tab. 30. f. 206. not of Wood.

Grassy banks.

7. *Gallipennella* Hüb. t. 29. f. 202. not of Stephens nor of Wood.

Grassy banks. Larva on *Erica vulgaris* and *Artemisia campestris*.

8. *ochrea* Haw. 533. 1.—*ochrodactylus* Fab.?

“June, Darent Wood.”

9. *ornatipennella* Hüb. t. 29. f. 199.

June, Darent and Birch Woods.

10. *Struthionipennella* Hüb. t. 30. f. 209.

“June, Darent Wood, near Dover and Lyndhurst:” the larva feeds on *Hieracium pilosella*.

11. *Otidipennella* Hüb. t. 65. f. 433. not of Wood.

June, Darent Wood, and near Lyndhurst.

12. *Anseripennella* Hüb. t. 46. f. 319.

June, in the neighbourhood of London and Lyndhurst.

13. *Anatipennella* Hüb. t. 27. f. 186.—*porrectella* Linn.

June, gardens near London; old shady pales Shooter's Hill; July, birch, Darent and Coomb Woods: the larva feeds on the beech.

The Plant is *Medicago sativa*, Lucerne or Purple Medick.







## DAMOPHILA TRIFOLII.

The Trefoil thick-horned Tinea.

ORDER Lepidoptera.

FAM. Tineidæ.

*Type of the Genus, Tinea spissicornis Haw.*

DAMOPHILA Curt.—Porrectaria Haw.

*Antennæ* inserted above the eyes on each side the head, slender, somewhat setaceous, composed of numerous joints clothed with broad scales nearly to the middle, the basal joint appearing very much dilated, the following gradually tapering (1).

*Maxillæ* a little longer than the palpi, spiral, attenuated, clothed with scales at the base (3).

*Labial Palpi* longer than the head, slightly curved upwards, slender, clothed with close metallic scales, triarticulate, basal joint long, subclavate, 2nd very long and linear, 3rd shorter and pointed (4 and 4 a).

Head small subglobose clothed with broad depressed scales. Eyes lateral rather prominent, slightly and obliquely ovate (7 and 7 \*). Thorax ovate. Wings very long and lanceolate folded cylindrically when at rest, inferior very narrow: cilia exceedingly long, surrounding the inferior wings. Abdomen slender, tufted at the apex in the males. Legs long and slender: coxæ, anterior long: thighs of equal length: tibiæ; anterior as long as the thigh, with a minute internal notch near the apex, intermediate spurred at the apex as well as the posterior, which are longer, stouter, and furnished with a pair of spurs below the middle: tarsi 5-jointed, anterior rather the longest, basal joint very long, 4th and 5th the shortest: claws minute (8 a fore leg).

TRIFOLII Curtis's Guide, Gen. 1017. 1.

*In the Cabinets of Mr. Dale and the Author.*

THE singular horns of these insects like those of *Lepidocera* (plate 344) are clothed with scales at the base, but much finer; this alone will distinguish them from any others that are allied to them, and of those genera already illustrated in this Work,

Damophila approaches nearest to *Pancalia* (pl. 304) and *Glyphipteryx* (pl. 152).

The two following are the only species that have been discovered, and not any notice appears to have been taken of them at present by continental writers.

1. *D. Trifolii* Curt. Brit. Ent. pl. 391.

Shining metallic golden green: tips of the antennæ white; abdomen shining, slate-black; superior wings with the costa and tips cupreous; inferior as well as the cilia pale black.

I presume this pretty moth is the *Trifolii* of Stephens's Catalogue, but that is immaterial, as his insect is not characterized, and this is certainly attached to the Trefoil as observed by my friend Mr. Dale, who says in a letter to me, "I took this *Tinea* July 11th and 14th 1831, on trefoil flowers near the shore in the Isle of Portland and at Charmouth in Dorsetshire, they were tolerably plentiful but very few perfect. It rained fast at the latter place when I found them settled on the flowers, yet some did not seem to be hurt by the wet; they were, however, sleepy or sluggish."

2. *D. spissicornis* (the thick-horn'd green) Haw. Lep. Brit. p. 537. n. 23.

Half the size only of *D. Trifolii*. Golden or coppery green; middle of the antennæ spotted black and white, the apex entirely white: abdomen and inferior wings blackish with a cupreous tint; cilia pale black.

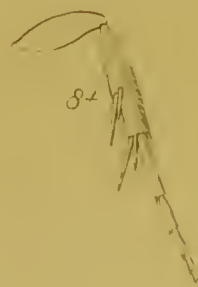
The female of this insect has the antennæ less robust at the base, I believe, than the male.

Mr. Dale finds this species on rushes in a boggy place by a copse near Glanvilles Wootton, Dorset, he believes at the end of May; I have received it also from Cobham, in Surrey.

The Plant represented in the Plate is *Prenanthes muralis* (Wall *Prenanthes*).







## PANCALIA WOODIELLA.

## The Manchester Tinea.

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ORDER Lepidoptera. FAM. Tineidæ *Leach*.

*Type of the Genus, Tinea Lcuwenhockella Linn.*

PANCALIA *Step.*—*Tinea* *Linn.*, *Fab.*, *Hüb.*, *Haw.*—*Porrectaria* & *Gracillaria* *Haw.*

*Antennæ* alike in both sexes, inserted close to the eyes on the crown of the head, considerably shorter than the wings, slightly setaceous, composed of numerous joints covered with scales, the basal joint long and subclavate (1).

*Maxillæ* nearly twice as long as the palpi, slender and spiral, clothed externally at the base with scales (3).

*Labial Palpi* longer than the head and recurved (7 a, 4), divaricating (7, 4), clothed with flat metallic scales, triarticulate, basal joint rather short subclavate, 2nd long and curved, 3rd a little longer, slender and setaceous (4 a).

Head short, subglobose, clothed with broad depressed metallic scales (7).

Eyes small, subovate and lateral (7 a, the head in profile). Thorax clothed with broad depressed scales. Wings nearly horizontal and incumbent when at rest, superior linear-lanceolate, producing longish cilia, inferior smaller and lanceolate, furnished with long cilia. Legs robust, posterior pair the longest. Thighs very short. Tibiæ; anterior with an internal spine, the others spurred, the posterior having 2 spurs at the middle also, and a small pencil of hairs at the apex, opposite to the spurs, which are unequal in length. Tarsi 5-jointed.

Claws very minute (8 †, a hind leg).

Caterpillars with 16 ? feet.

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WOODIELLA *Nob.*

*Female.* Glossy black. *Antennæ* with the basal joint beneath pale. Palpi ochreous. Head, thorax and abdomen with a slight reddish tinge. Superior wings bright orange above, a mark at the base clubbed at both ends, and a semifusiform one on the costa beyond the middle, black, metallic in the middle like steel; a line at the basal angle, a large square spot on the inferior margin, and a sinuated fimbria, black tinged with purple. Inferior wings reddish orange, freckled with black. Cilia yellowish black. Beneath reddish orange freckled with dull black. Coxæ whitish. Legs broken off.

*In the Author's Cabinet.*

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It is almost unnecessary to observe, that in order to ascertain an established genus, it is requisite to peruse the characters, and not depend entirely upon a name: indeed it is frequently necessary to go further, and to trace a genus to its origin to avoid error. Had Mr. Stephens taken this trouble, he would

not have superseded the generic name *Glyphipteryx*, nor have given to Latreille's true *Æcophora* the title of *Dasycera*.

Latreille established the genus *Æcophora* in his "*Histoire Naturelle*," and expressly says, the types are the *Tineæ sulphurella* and *Olivella* of Fabricius, and thus characterizes them: "Two very long palpi; 2nd articulation more clothed with scales than the others; the last of the same length, almost conical and naked."

It is true that the same author, to avoid creating Genera in this Order, has in his "*Genera Crustaceorum*" enumerated eight *Tineæ* as examples; but the character which he there gives, "*Palpi recurved beyond the head*," will at once exclude our *Glyphipteryx*, which has drooping Palpi: and in his last work, "*Familles Naturelles*," he says of *Æcophora*, "*Labial palpi much longer than the head, and thrown backward as far as the top of the thorax*."

The following are British species of *Pancalia*.

1. *P. Woodiella* *Curt. Brit. Ent.* 304.—The only specimen I have seen of this beautiful Moth, which is larger than the others, is a female; it was taken on Kersall-moor the middle of last June by Mr. R. Wood, of Manchester, to whom I have the pleasure of dedicating it;—a most zealous and successful naturalist, to whose liberality I am indebted for this and many other valuable insects.

2. *P. Latreillella* *Curtis*.—Fuscous, superior wings ochreous orange, with 7 embossed silver spots on each. This species is distinguished from the following by its considerably larger size, the antennæ are *entirely fuscous*, the orange of the superior wings is rather of a different tint, and the silver spots towards the apex are not of the same form.—I forget its locality.

3. *P. Leuwenhoekella* *Linn.—Haw.* 574. 47.—Taken by Mr. Dale, the 1st of June, near Bristol; it was abundant amongst grass and fern near Ambleside, and I met with it last May, in a wood near Kimpton.

4. *P. Merianella* *Linn.—Haw.* 531. 17.—*Micella* *Hüb., Tin.* 31. 210.—*Reaum.* ? 1. p. 17. f. 12.—The Caterpillars feed on the Plum and Bird-Cherry. The Moth is very common amongst Heath, at Ramsdown, Hants, the end of August, and in other parts of the same county.

5. *P. fusco-ænea* *Haw.* 537. 21.—“(The Brown-brassy). 7 lines broad. Anterior wings fuscous-æneous, shining, of a coppery tint. Posterior linear-subulate, black, shining.” *Haw.*

6. *P. fusco-cuprea* *Haw.* 537. 22.—“(The Brown-copper).  $5\frac{1}{2}$  lines broad. Anterior wings fuscous-cupreous, immaculate. Very much like the preceding but smaller, wings broader in proportion to the size; posterior fuscous shining.” *Haw.*—Mr. Stephens includes these two insects in his genus *Pancalia*, but I have had no opportunity to examine them.

The plant is *Clinopodium vulgare* (Wild Basil).





*Pub. y J. Curdes London Feb. 1. 1827*



## GLYPHIPTERYX LINNEELLA.

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ORDER Lepidoptera. FAM. Tineidæ *Leach.* Tineites *Lat.*

*Type of the Genus* Phalæna Linneella *Clerck.*

GLYPHIPTERYX *Nob.*—Æcophora *Lat.*—Tinea *Fab.*—Phalæna (*Tinea*) *Linn.*

*Antennæ* capillary, alike in both sexes, inserted close to the eyes on the crown of the head, as long as the wings, composed of numerous joints covered with scales, the basal joint long, nearly naked and subclavate (fig. 1, a few joints magnified).

*Maxillæ* not much longer than the palpi, attenuated, robust and covered with scales at the base (3, 3).

*Labial Palpi* drooping and diverging outward (4, 4), longer than the head, slender, slightly curved, and sparingly clothed with small scales, 3-jointed, basal joint clavate, 2nd long linear, 3rd nearly as long attenuated (4 a).

Head obovate viewed in front, the clypeus being somewhat produced (7), covered with close, broad, shining imbricated scales. Eyes small (7 a, the head in profile). Wings subdeflexed when at rest, superior linear-lanceolate embossed, the posterior margin not defined producing very long hairy scales from the surface, forming the cilia: inferior lanceolate, surrounded by very long cilia. Legs, posterior pair the longest. Thighs very short. Tibiæ, anterior with an internal spine, the remainder spurred, the posterior having 2 spurs towards the base and producing some long hairs on the outside. Tarsi 5-jointed. Claws minute (8 †, a hind leg).

Caterpillars with 14 feet. *Fab.* Pupæ naked. *Fab.*

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LINNEELLA *Clerck, tab. 12. f. 8.*—*Linn. Faun. Suec.* 1408.

Head thorax and abdomen very glossy, dull and pale violaceous. Antennæ black, white at their apex. Palpi and legs fuscous variegated with yellowish white. Superior wings bright orange, black at the base and apex where it is metallic; a line on the costa interrupted in the middle, a small spot near the base and 3 embossed spots forming a triangle in the middle of each wing burnished silver, the latter black beneath. Inferior wings blackish violet, with a yellow cast. Cilia blackish.

*In the Author's and other Cabinets.*

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THE long palpi, which form so strong a feature in the *Tineidæ*, are so constantly either porrected or recurved over the head, that the drooping attitude of the species under investigation, cannot fail to strike a close observer of these little insects; and if we had not had the opportunity of examining a considerable number, we should have concluded that it was merely accidental: the perfect smoothness of the head and its peculiar form, the smallness of the eyes, and the robust and scaly base of the proboscis, are also by no means universal characters. From the beautiful elevated metallic spots upon the wings, which are composed as in *Peronea*, of bundles of longer scales than those covering the rest of the surface, they have an embossed appearance, for which reason the name *Glyphipteryx* has been assigned to them.

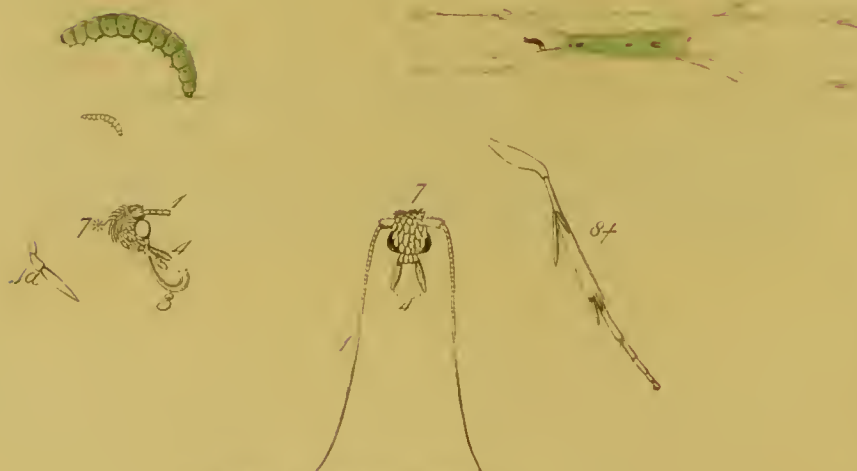
From our insect answering Linnæus's description so well, there can be little doubt that it is the *Phalæna Linneella* of Clerck, who figured and named it after the illustrious Swede. Although small it is extremely beautiful, and is considered by collectors a valuable acquisition; indeed it existed in very few cabinets until my friend Mr. Charles Fox detected a considerable number upon the trunks of willow-trees, last July, near the banks of the Thames, and liberally supplied me with very fine specimens.

*Phalæna (Tinea) Schæfferella* Linn.; and *Don. Brit. Ins. v. 5. pl. 175*, belongs to our genus. This pretty insect we once met with in abundance upon the Tansy (*Tanacetum vulgare*), and Mr. Donovan found it in May upon the same plant. Linnæus says it feeds upon the leaves of a *Fagus*.

Not having specimens of *P. Ræsellæ* Linn. (Clerck, *tab. 12. f. 13.*), we cannot be positive, although there is little doubt that it belongs to our genus: Linnæus says that the caterpillars feed upon the parenchyma of the leaves of apple-trees. The larvæ are all probably subcutaneous feeders, as well as those of the large group, which we shall call *Argyromiges*, containing *Tineæ Gædartella*, *semiargentella*, *Cramerella*, *Rayella*, &c.

The plant figured is *Geranium Robertianum* (Herb Robert).





## ARGYROMIGES AUTUMNELLA.

ORDER Lepidoptera.      FAM. Tineidæ *Leach.*  
Tineites *Lat.*

*Type of the Genus, Tinca Rayella Linn.*

ARGYROMIGES *Nob.*—Argyromis *Ste.*—Tinea *Linn., Fab., Haw., &c.*

*Antennæ* capillary, alike in both sexes, inserted on each side the crown of the head, as long as the wings and bent back beneath them when in repose, composed of numerous subquadrate joints covered with scales, the basal joint being stout (1).

*Maxillæ* spiral flat broad and short, not more than twice as long as the Palpi (3).

*Labial Palpi* drooping and bent under the thorax, slightly divaricating, nearly straight, not longer than the head, completely covered with scales (4); triarticulate? basal joint minute, 2nd short, subtruncate, 3rd the longest compressed and membranous (4 a).

Head *deflexed, subglobose, covered with porrected scales on the crown forming a tuft, those on the clypeus being close and imbricated. Eyes small lateral (7 & 7\*).* Wings; superior linear, sublanceolate, parallel, meeting over the back and appearing cylindrical when at rest, ciliated at the apex and on the interior margin, where the cilia are very long: inferior slender linear producing very long cilia. Abdomen slender, tufted at the apex in the males, and acuminate in the females. Legs; anterior the shortest, with an internal spine on the tibia, the others spurred, the posterior tibiæ being longer and producing a pair of spurs towards the base, one of which is very long (8†). Tarsi 5-jointed, basal joint the longest. Claws minute.

Caterpillars with 6 pectoral, 8 abdominal and 2 anal feet. Pupæ inclosed in a cocoon.

Obs. The dissections were made and the characters taken from the species figured.

### AUTUMNELLA *Nob.*

Yellowish white, sometimes silvery white. Superior wings with a large irregular and long yellowish brown spot towards the extremity, with 4 blackish triangular marks on the costa and an intensely black dot at the apex, below which is a small spot and a black ray: inferior wings shining fuscous, the cilia blackish, iridescent. Body lead colour, palest at the margins. Legs fuscous, silvery beneath.

*In the Author's and other Cabinets.*

THE short straight palpi, long antennæ, and narrow wings, are the best characters to distinguish the genus *Argyromiges*, a name which I have assigned to them from the species being



frequently spotted with silver. The following are said to be British.

1. *Blancardella* *Fab. Haw.*—End of May, hedges.
2. *Schreberella* *Fab. Haw.*—Hedges near London, b. May.
3. *Cydoniella* *Fab. Haw.*—*Hüb. ? pl. 39. f. 271.*—On *Pyrus Cydonia*, &c.
4. *Klemannella* *Fab. Haw.*—*Hüb. pl. 29. f. 201.*—e. May, hedges, Coomb-wood.
5. *Mespilella* *Hüb. pl. 39. f. 272.*—*Haw.*—e. May, hedges.
6. *Rajella* *Linn. ?*—*Rayella* *Hüb. pl. 29. f. 200.*—e. April and May, hedges.
7. *tristrigella* *Haw.*—e. May, Coomb-wood.
8. *trifasciella* *Haw.*—*Lyonetella* *Linn. ?*—e. May, hedges, Coomb-wood.
9. *Harrisella* *Linn.*—e. May and June, skirts of woods.
10. *Cramerella* *Fab.*—*Prunifoliella* *Hüb. pl. 28. f. 191.*—*Bonnetella* *Linn. ?*—The larvæ are found on oak leaves in November; they feed on the parenchyma, forming a cocoon, between the plates of the leaf, surrounded by their excrement, which inflates the leaf, and when ready to hatch, the chrysalis works its way through the plate of the leaf beneath, and the moth escapes: this happens in May and June.
11. *Spartifoliella* *Hüb. pl. 49. f. 335.*—*punctaurella* *Haw. 578. 63.*—Broom fields, Coomb-wood, June; and near Dunkeld, m. July.
12. *hortella* *Haw.*—*Cramerella* *Don ? 11. pl. 392. f. 1.*—e. May, skirts of woods.
13. *Ulmifoliella* *Hüb. pl. 66. f. 444.*—I have taken one specimen of this insect.
14. *sylvella* *Haw.*—*Blancardella* *Don ? 11. pl. 392. f. 2.*—e. May, woods.
15. *cueulipenella* *Haw.*—Coomb-wood. *Hübner's fig. 192. pl. 28.* represents, I suspect, a *Gracillaria*.
16. *autumnella* *Curtis Brit. Ent. pl. 284.*—For the history of this elegant little moth I am indebted to a lady, who informs me that she found the larvæ, pupæ, and imago at the same time. The caterpillars were observed the end of September and beginning of October upon elm leaves; they fastened themselves by their hinder feet, and curved their bodies to walk as represented in the plate; they eventually attached a cocoon to the back of the leaf, by eight threads, four from each end, four being fastened to the leaf, and four to two parallel threads, so as to be suspended like a hammock; and in two or three days after, the moths emerged. Mr. Dale has taken specimens at Glanvilles Wootton, on apple-trees, and others have been found in the New Forest. The uncoloured figure shows the natural size of the larva, the coloured one and the cocoon being equally magnified.
17. *Corylifoliella* *Hüb. pl. 28. f. 194.*—May and June, hedges, Coomb-wood.
18. *Alnifoliella* *Hüb. pl. 28. f. 193.*
19. *obscura* *Steph.*
20. *rufipunctella* *Haw.*—e. May, white-thorn, Kent.

The plant is *Polygonum Persicaria* (Spotted Snakeweed).





## EDERESA SEMITESTACELLA.

The testaceous White-back.

ORDER Lepidoptera.

FAM. Tineidæ.

*Type of the Genus, Tinea Pruniella Linn.*EDERESA Curt.—Erininea Haw.—Œcophora Och.—Tinea Linn.,  
Hüb.

*Antennæ* inserted on each side of the crown, over the eyes, as long as the body and very slender, composed of numerous elongated joints, attenuated at the base, each clothed above with 2 series of scales and hairy beneath, especially at the base of each joint, the 1st longer stouter curved and scaly (1).

*Maxillæ* shorter than the antennæ, spiral, very slender and naked at the base (3).

*Labial palpi* more or less drooping, divaricating, slender, as long or longer than the head, clothed with short scales, triarticulate, basal joint a little clavate and curved, 2nd longer, nearly linear, 3rd nearly as long and stout, rounded at the apex (4 & 4a).

Head small with a large tuft of upright hairs covering the crown; face shining, with broad depressed scales (7 & 7\*): eyes small and orbicular. Thorax small. Abdomen rather short, apex obtuse in the male, conical in the female. Wings long and narrow, very much deflexed, almost cylindric in repose: superior elliptic-lanceolate, costa arched; cilia very long and extending round the apex where it is short: inferior very narrow and perfectly lanceolate; cilia very long, extending all round. Legs, hinder the longest: thighs short: tibiæ, anterior short, the others with long unequal spurs at the apex, hinder long and stoutish, with a long unequal pair also considerably above the middle: tarsi long, 5-jointed, basal joint long, apical one short (8†). The dissections were drawn from *T. curvella* Linn.

SEMITESTACELLA Curt. *Guide, Gen.* 1027. 8.

Silky testaceous; palpi, crown of head and antennæ white, the latter spotted with black: superior wings fulvous, slightly mottled, with a delicate violaceous bloom, 3 whitish spots on the costa near the apex, and a flame-shaped stripe of the same colour on the inferior margin, not extending beyond the middle: inferior wings pale plumbeous, cilia yellowish fuscous, yellowish at the apex of the superior wings with two fuscous curved lines; tibiæ and tarsi spotted above with brown.

*In the Author's Cabinet.*

From my genus *Argyromiges* (pl. 284) this group is separated by its short antennæ and broader wings, as well as by the proportions of the palpi and spurs, which are different; but I



find that *Argyrosetia* has nothing more than the metallic colour of the superior wings to distinguish it from *Ederesa*. I expect the larvæ have 16 feet, but whether they are subcutaneous or live in leaves, rolled up by themselves, I am not able to say; if Stewart be correct, the caterpillar of *E. Pruniella* "harbours in the flowers of the cherry, and having destroyed the part of fructification, it connects them with a thread; it is of a whitish-green colour; the head and first segment of the body brown and shining." The following are our species.

1. *Clematella* *Fab.*—*Wood*, *pl.* 42. *f.* 1303.—*repandella* *Hüb.* *pl.* 37. *f.* 256.

The caterpillar feeds on the *Clematis*, the moth occurs at Darent the beginning of July.

2. *curvella* *Linn.*—*Wood*, *f.* 1302.—*curva* *Haw.* *p.* 516. 14.

June and July in osier holts and in gardens near willows.

3. *ossea* *Haw.*—*Wood*, *f.* 1304.—*f.* 1306 is another genus.

June and July, woods near Dover.

5. *ocellea* *Step. Ill.*—4. *subocellea* *Ste. var.?*

June, Darent Wood.

6. *tetrapodella* *Linn.?*

June, in gardens near London.

7. *Pruniella* *Linn.*—*Wood*, *f.* 1298.—*Pruni* *Haw.*—*Ehippella* *Fab.*

Common in gardens and hedges in June and July.

10. *albistria* *Haw.*—*Wood*, 1299.

June, hedges and woods, Coomb and Darent.

11. *mendicella* *Hüb. pl.* 26. *f.* 179, not *Wood's f.* 1296.

Hedges, Epping Forest.

12. *semifusca* *Haw.*—*Wood*, *f.* 1300.—*Pruniella* *Don.* 2. 58. 1. & 59. 2.

End of June and July, Highgate, Cambridgeshire, and Wrentham, Suffolk.

8. *semitestacella* *Curt. B. E. pl.* 719 ♀.—9. *semipurpurella* *Curt. var.*

These insects I described in the *Ent. Mag.* several years since; they were taken in the New Forest by Mr. C. Lyell. *Wood's* fig. 1301 is a totally different species, which appears to belong to another group: his fig. 1300 does not represent my variety, which has the upper wings castaneous and grey, instead of fulvous.

*Melittis Melissophyllum*, var. *grandiflora*, Purple and white Bastard Balm, from Westwood, near Netley Abbey, was communicated by Dr. Bromfield.







*Sc. lyp. 8, 1. 4. Ju. 1.*

## \*YPONOMEUTA ECHIELLA.

## \*\*YPONOMEUTA PUSIELLA.

ORDER Lepidoptera. FAM. Tineidæ.

*Type of the Genus, Tinea pusiella Linn.*

YPONOMEUTA Lat., Sam.—ERMINEA Haw., Curt.—Tinea Linn., Fab., Hüb.—Cænyphantes Hüb.

*Antennæ* simple, alike in both sexes, rather short and setaceous, inserted close to the eyes on each side of the head, composed of numerous short joints, clothed with scales above, pubescent beneath (1).*Maxillæ* robust and spiral, not longer than the palpi, clothed externally with scales at the base (3).*Labial Palpi* long slender and curved upward, slightly divaricating, clothed with short scales, triarticulate, basal joint subclavate, 2nd curved and very long, 3rd shorter, but longer than the 1st joint, very slender, tapering and acute (4 and 4 a).

Head rather small, the crown thickly clothed with erect scales: eyes lateral, prominent and orbicular (7 front view; 7\* profile of the head). Thorax smooth. Wings rolled or convoluted when at rest, long, linear-lanceolate; inferior ample. Abdomen rather short and conical in the female. Legs, anterior rather short. Tibiæ, anterior short, with an internal spine, the others spurred at the apex, posterior with a pair of spurs above the middle, clothed externally with hairy scales. Tarsi 5-jointed, basal joint the longest (8†, hind leg).

Caterpillars with 6 pectoral 8 abdominal and 2 anal feet. Pupæ inclosed in a cocoon or web.

ECHIELLA Hüb.—Curt. Guide, Gen. 1029. 9.

Cream-colour, antennæ face and palpi, excepting the base and the 3rd joint, black: thorax bearing 6 black spots: superior wings with the costal half mouse-colour, excepting the tip, the central margin deeply sinuated and lobed; base of the cilia bearing 11 black dots and a spot on the apex mouse-colour: inferior wings slightly tinted with yellow, the apex cinereous; abdomen and posterior legs orange.

PUSIELLA Linn. Syst. Nat. 2. 884. 347.—Curt. Guide, 1029. 8.

Pale cream-colour, antennæ, base of palpi and base of 3rd joint black; a circle round the eyes and 6 spots on the thorax black, the posterior one double: anterior wings with a very irregular sinuated black stripe along the middle, with 3 black spots near the base, 2 towards the apex and a large one on the costa; 11 black dots along the base of the cilia and a faint black one at the apex: inferior wings satiny-white, the superior portion more or less fuscous, with a few spots along the margin at the apex: abdomen of the female with 4 black spots on the apical joint.

*In the Cabinet of the British Museum.*

THE similar appearance of *Eulepia cribrum* (pl. 56.) and of the group now under consideration, has led Latreille and other authors to connect the Bombycidæ and Tineidæ at this point; but on comparing the essential generic characters I think no affinity can be established: I shall therefore include the genera of my Guide from 821 to 827, and perhaps 828 and 829 in the family Lithosiidæ.

The names in my Guide of genera 1028 and 1029 must be transposed, for M. Latreille gave *T. evonymella*, *padella* and *echiella* as types of Yponomeuta, and Mr. Haworth having included both my genera in his group Erminea, this name may be retained for my genus 1028, which is preferable to giving it a new name.

The following are British species, and the 5 or 6 first live in society in a web in the larva state.

1. *Y. plumbella* *Fab.*—*Hüb.*—*Tin.* 13. 86.—End of August, hedges, Kent. Baylam Pond and Enborne, July 12th, J. C. Dale, Esq.
2. *Y. padella* *Linn.*—*Hüb.* 13. 87.—*Evonymella* *Don.* 1. 9.—*rorella* *Hüb.* 34. 234.?—End of July, hedges and gardens.
3. *Y. Cagnatella* *Hüb.* 58. 391 and 392.—*rorea* *Haw.*, a variety of *Y. padella* probably.
4. *Y. irrorella* *Hüb.* 14. 93.—Found in Surrey, but rare.
5. *Y. Evonymella* *Linn.*—*Don.* 10. 355. 4.—Caterpillars feed on the Spindle Tree, Bird Cherry, &c. The moths are found in June and August, in hedges and gardens.
6. *Y. dodecea* *Haw.* 514. 6.—*decemguttella* *Hüb.* 44. 303. It has been taken at Coombe. The Caterpillars were said to have been found in the young shoots of Scotch Fir-trees.
7. *Y. funerella* *Hüb.* 13. 85.—*Goda*, pl. 44. 5.—I have a specimen of this rare moth from Mr. Plastead's cabinet, and I took another at Fontainebleau 22nd July 1830. Taken also at Clifton near Bristol, by Capt. Blomer.
8. *Y. pusiella* *Linn.*—*Curt. Brit. Ent. pl.* 412\*\* *fem.*—*Lithospermella* *Hüb.*

The specimens in the British Museum of this and the following species are stated to have been bred or taken at Dover. The eggs, cocoon and larva in our Plate are copied from Hübner.

9. *Y. Echiella* *Hüb.*—*Curt. B. E. pl.* 412\* *fem.*—*bipunctella* *Fab.*

This species appears in summer, and the Caterpillar feeds upon the Viper-grass (*Echium vulgare*).

The plant is *Lithospermum officinale* (Common Gromwell), on which the larvæ of *Y. pusiella* feed.







*Buttercup* *Urtica* *Urtica*

## CEROSTOMA ANNULATELLA.

The ringed diamond-back.

ORDER Lepidoptera. FAM. Tineidæ.

*Type of the Genus, Tinea Xylostella Linn.*

CEROSTOMA Lat.—Alucita Lat.—Ypsolophus Fab., Haw.—Tinea Linn., Hüb.

*Antennæ* porrected in a line with the body when at rest, inserted on each side the head near to the eyes, rather long and slender, thickened towards the base, densely clothed with scales above (1). *Maxillæ* shorter than the antennæ, slender and spiral (3). *Palpi* minute, acute and porrected upward.

*Labial Palpi* rather long, curved upward and parallel, basal joint the shortest, 2nd densely clothed with long scales, projecting from the underside and apex and forming a long thick brush (4). 3rd joint the longest, very slender and clothed with minute scales (4 a).

Head tufted or clothed on the crown with somewhat upright scales (7).

Eyes lateral subglobose (7 \*). Wings very much deflexed and turned up at the apex when at rest; superior long, narrow and lanceolate; inferior lanceolate and deeply ciliated. Abdomen much shorter than the wings, linear in the males, ventricose in the females, slightly tufted. Legs slender, anterior the shortest. Thighs, posterior very short. Tibiæ, anterior with an internal spine, the others spurred at the apex, the posterior very long clothed only with short scales and having a pair of spurs near the middle (8 †). Tarsi 5-jointed, basal joint long. Claws minute.

Larvæ subfusiform with 6 pectoral, 8 abdominal and 2 anal feet. Roesel. Pupæ inclosed in a web.

ANNULATELLA Curtis's Guide, Gen. 1031. 2.

*In the Cabinets of Mr. Wailes and the Author.*

THE narrow wings of this little group and the less developed maxillary palpi will distinguish it from the Ypsolophi; to which it is so nearly allied, that it is perhaps scarcely worth separating them. I have however applied Latreille's name, which is equally applicable to both; and if the true Ypsolophi do not porrect their antennæ as these do when at rest, there is good reason to divide them. The genus of *C. hesperidella* depends on this character, for it is in every other respect an intermediate form.

As I shall most probably not illustrate YPSOLOPHUS, I shall here give the species, &c.

1. *Y. mucronellus* Hüb. *Tin. pl.* 15. f. 99.—July, Darent, Messrs. Chant and Bentley, Aug. Sept. Coomb Wood.
2. *Y. sylvellus* Hüb. 63. 420.—*Persicellus* Haw. not of Hüb.—*bifasciatus* Haw.—*Nemorum* Fab.—Middle of June and September.

3. *Y. variellus* *Hüb.* 16. 106.—5-punctatus, lutosus, and flaviciliatus *Haw.* vars.—End of July, Birch-wood, J. C.—Beginning of September, Devon.
4. *Y. rufimitrellus* *Hüb.* 18. 124.
5. *Y. fissellus* *Hüb.* 16. 108.
6. *Y. radiatellus* *Don.* 3. *pl.* 77. 3. & 4.—Beginning of August, middle of October, Apple-trees, Glanville's Wootton, J. C. Dale, Esq.
7. *Y. costellus* *Hüb.* 16. 107.—ochroleucus, ermineus, and ustulatus *Haw.* vars.—End of August, beginning of September, in Oak-woods, Devon.
8. *Y. manrellus* *Hüb.* 18. 122?
9. *Y. vittellus* *L.*—*Hüb.* 51. 349.—dorsatus? *Lat. Gen. Crust.* 4. 233. *pl.* 16. *f.* 6.—Trunks of Elms, Kensington Gardens.
10. *Y. sequellus* *Linn.*—*Hüb.* 15. 103.—End of August, hedges, Westerham, Kent, but rare.

#### CEROSTOMA.

1. *Hesperidella* *Hüb.* 25. 169.—vittatus *F.*—In gardens the whole of June, end of August and beginning of October, Wrentham, Suffolk; Lyndhurst, Hants; and Lisson Grove. J. C.

2. *annulatella* *Curt. Brit. Ent. pl.* 420.

Whitish ochre, base of palpi brown, each joint of the antennæ annulated with brown; eyes black; shoulders brown: superior wings variegated and spotted with brown, leaving a pale space along the inferior margin on which is a row of dots, the internal edge is indented, and forms a fiddle-shaped mark when the wings are closed; on the costa towards the base is a double row of dots, and beyond them 4 large brown spots, the posterior margin is brown, and the cilia variegated with the same colour: inferior wings cinereous, cilia brownish ochre: tibiæ and tarsi annulated with brown and ochre.

I first discovered this insect, which varies very much in colour, in Scotland in August; and it has been since taken on the sea-coast at Tynemouth, Northumberland, by G. Wailes, Esq.

3. *maculipennis* *Curt. Guide, No.* 3.

The size of *C. Xylostella*: dirty ochre, superior wings freckled with brown, inferior margin dark brown with 3 large ochreous spots, one towards the base, another at the centre, and a 3rd near the posterior angle. August, Scotland; and middle of September in a field at Heron Court, Hants.

4. *Xylostella* *L.*—*Hüb.* 17. 119.—*Roesel* 1. *t.* 10.—End of June, London; middle of July, Dover; August, Scotland, on Honey-suckles and Wall-flowers; middle of October, Turnip-fields, Southchurch, Essex.

The Plant is *Ranunculus auricomus* (Goldilocks, or Wood Crowfoot).







## ACROLEPIA BETULELLA.

The Durham Tinea.

ORDER Lepidoptera.

FAM. Tineidæ.

*Type of the Genus, Acrolepia autumnitella Curt.*

## ACROLEPIA Curt.

*Antennæ* inserted in front of the head, close to the eyes, remote, rather short and capillary, not so long as the body, composed of numerous joints clothed with scales above (1), basal joint stout and ovate.

*Maxillæ* nearly as long as the antennæ, very slender and spiral, without tentacula at the apex (3). *Palpi* distinct (7 \* a), incurved, slightly scaly, rather short, slender and triarticulate, basal joint obovate, 2nd subglobose, 3rd long, slender, subfusiform, the apex producing a pencil of scales (3 a).

*Labial palpi* long, divaricating and recurved, clothed with short scales, tapering and triarticulate, basal joint elongate-clavate, 2nd longer and linear, 3rd very long, slightly curved and tapering to a point (4 and 4 a).

Head small and globose, covered with broad depressed scales with a few coarse hairy ones at the back of the head (7 front view, 7 \* the profile): eyes hemispherical, neither large nor prominent. Thorax small. Abdomen slender, not short, tapering, a little tufted at the apex in the males. Wings very much deflexed in repose (N), with the apex raised, superior elongated, sublinear, the apex rounded; cilia short and regular: inferior lanceolate, nearly as broad as the superior; cilia long. Thighs short: tibiæ, anterior with a long slender internal spine, the others spurred at the apex, hinder long, clothed only with short scales, with a pair of spurs also above the middle, one of them very long (8 †): tarsi 5-jointed, basal joint long: claws and pulvilli minute.

Larvæ and metamorphoses unknown.

BETULELLA Curt.—Gen. 1031<sup>b</sup>.

Ochreous-brown; antennæ white spotted with black; palpi whitish, fuscous outside; head and thorax subferruginous; superior wings slightly clouded, with a few indistinct pale spots on the costa, sparingly freckled with black and whitish dots, interior margin with several minute cream-coloured dots with dark margins, and a large somewhat ovate or trigonate cream-coloured spot at the centre, margined with black and bearing 1 or 2 black lines; cilia ferruginous, with a yellowish spot above the middle; inferior wings grey, the cilia with an ochreous tinge: abdomen and legs fuscous, the latter spotted with yellowish white.

*In the Cabinet of Mr. Dale.*

ALTHOUGH these little moths are allied to the genuine *Tineæ*, the form and short cilia of the superior wings give them in repose a considerable resemblance to some few of the *Tortricidæ*; the shape however of the inferior wings, the slender and recurved labial palpi, and the well-developed maxillary palpi, at once indicate the tribe to which they belong. The natural affinity of this group seems to be the restricted genus *Tinea* (fol. 511), from which it is readily distinguished by its smooth scaly head, from whence I have given it the generic name of *Acrolepia*. These moths are not included in my *Guide*\*, where they will range either before *Euplocamus* or after *Tinea*.

1. *A. autumnitella* Curt.

Ochreous-brown; antennæ black with white rings; head and thorax with a purplish lustre; superior wings mottled with brown, a large semiovate blackish spot at the middle of the costa, an elongated one towards the posterior margin and numerous black dots over the whole surface as well as scattered white scales; a trigonate cream-coloured spot at the middle of the interior margin, and one or two lines of the same nearer the base, all broken by brown dots: cilia ochreous at the base, with a yellowish spot at the middle: abdomen and inferior wings fuscous, the wings pale at the base, the legs darker with whitish spots.

This moth first attracted my notice on the window of a garden-house at Glanville's Wootton in October, and I have since met with it there in November; Mr. Dale finds it also in his garden, where it has appeared as early as the middle of August.

2. *Betulatella* Curt. *Brit. Ent. pl.* 679. ♂.

This species Mr. Dale discovered the beginning of last August on Birch trees at Castle Eden Dene.

The Plant is *Orchis tephrosanthos*, Monkey Orchis, from Hartlock Wood, for which I am indebted to the Rev. P. Hansell of Oxford.

\* Having stated in a note to the Preface of that Work that my British Collection contained 9500 species, it is necessary to observe that in consequence of some of the largest tribes having been recently described, it was impossible for me to examine and identify my specimens in time to add \*s to all those I possess: as these amount to many hundreds, it may appear to some persons that I have overrated my Collection; such however is not the case, for my *British species*, which have been counted, amount at this time very nearly to 10,000. As the genus *Crabro* is the next subject, I may instance that as an example of the omissions of \*s, for I possess 23 species, although 13 only are marked in the *Guide*, and of *Alysia* also I find that I have 17 species, yet 4 only have a \* attached to them.





## EUPLOCAMUS MEDIELLUS.

## The Boletus Tinca.

ORDER Lepidoptera. FAM. Tineidæ.

*Type of the Genus, Tinca mediellus Hüb.*

EUPLOCAMUS Lat., Curt.—Phycis Och.—Scardia Treit.—Tinca Hüb.

*Antennæ* inserted close to the eyes, short, setaceous, composed of numerous joints, each producing a small fascicle of fine hairs on each side in the male (1); simple in the female.

*Maxillæ* very much shorter than the labial palpi, spiral and composed of 2 flat and pubescent lobes (3). *Palpi* small, elongated and curved downward, not longer than the maxillæ, scaly and 6-jointed, basal joint short and stout, 2nd a little longer but linear, 3rd about the same length, forming a tassel of scales, 4th twice and 5th thrice as long, 6th as long as the 2nd, lanceolate (3 a).

*Labial palpi* rather long, recurved and bowed outward (4); tri-articulate, basal joint elongated and clavate, 2nd the longest, thickly clothed with scales, 3rd slender and nearly as long as the 2nd, but clothed only with short scales (4 a).

Head *subovate*, the crown and forehead tufted with curved scales: eyes small, lateral and globose (7\*, 7 a front view of the head). Thorax *subglobose*. Abdomen rather slender and linear, the apex conical in the female. Wings, very much deflexed in repose; superior very long, sublanceolated, the apex rounded, the costa slightly arched: inferior rather broader and subovate: cilia moderate. Legs, anterior very short, hinder very long, intermediate tibiæ with very long spurs at the apex, posterior stout and hairy, with 2 pair of long spurs, one pair at the middle: tarsi 5-jointed, hinder elongated, the basal joint long: claws and pulvilli very minute.

Larvæ fleshy with a few hairs, and a horny shield behind the head; furnished with 6 pectoral 8 abdominal and 2 anal feet. Hüb.

MEDIELLUS Hüb.—Curt. Guide, Gen. 1032. 3.

Ochreous, silky; superior wings dotted with white and black, a square brown spot on the costa before and another beyond the middle, forming a triangle with one on the interior margin, which is more or less united with the latter and striped with black, there is a series of black streaks between the nervures, arranged obliquely from the apex, each having a white dot externally; cilia maculated with brown; inferior wings fuscous, with a yellow and purple tinge.

*In the Cabinets of Mr. Robertson, the Author, &c.*

THE Euplocami are the giants of this pygmy race: the *Tinca Boletella* figured by Hübner measuring upwards of two inches



when the wings are expanded; it is therefore fortunate that their œconomy is widely different to the *Tineæ*, (pl. 511.), to which they are closely allied and bear so strong a resemblance that it will be necessary to point out the differences. The male *Euplocami* are distinguished by fasciculated antennæ, having a pectinated appearance; the labial palpi are recurved in both sexes, there seems to be one joint more in the maxillary palpi than I discovered in the *Tineæ*, but they are so minute and difficult to examine that I may be mistaken.

The only species discovered in this country is the *E. mediellus* *Hüb.*—*Curt. Brit. Ent. pl.* 591. ♀.—*Noctua Boleti* *Fab.*

The outline of a Caterpillar from Hübner is given in the corner of our Plate; it feeds upon the *Boletus versicolor* (pl. 39.), is of a yellowish white colour, with the head and a horny plate behind it of a red colour, as well as a spot on the apical segment. Specimens of the Moth were captured during last July on Wanstead Flats by G. Robertson, Esq.; the females were found resting on the trunks of Aspen-trees, and the males were taken flying round the same trees in the dusk of the evening, and close to the roots the empty pupæ were observed protruding through the turf. Mr. D. Bydder first discovered this species in the New Forest; and Mr. Ingpen records its having been taken at Birch Wood in September.

Mr. Robertson showed me a variety of the female, in which the base of the antennæ, the face, apex of the palpi, and a portion of the anterior legs, are coloured black with a chalybeous tint; this specimen was taken the end of June on Wanstead Flats.

The Plant is *Lychnis Flos-Cuculi* (Meadow Pinks, or Ragged Robin).





## TINEA CORTICELLA.

## The Bark Clothes-Moth.

ORDER Lepidoptera. FAM. Tineidæ.

*Type of the Genus, Tinea granella Linn.*

TINEA Linn., &amp;c.—Scardia Och.

*Antennæ* inserted on the crown of the head close to the eyes, shorter than the body, setaceous, composed of innumerable subquadrate joints, pubescent and clothed with depressed scales, the basal joint stout, rather long and clavate (1, a few basal joints).

*Maxillæ* spiral but not united, shorter than the labial palpi, with a broad fleshy margin on the inside at the base (3). *Palpi* somewhat fleshy and slender, as long as the maxillæ, pilose and sealy, apparently 5-jointed, basal joint small, 2nd twice as long, 3rd much longer and clavate, 4th the longest, 5th as long as the 3rd (3 a).

*Labial palpi* rather slender, divaricating, sometimes a little recurved, clothed with short scales (4), triarticulate, basal joint long and curved at the base, 2nd half as long again, nearly straight, 3rd as long as the 1st elliptic conical, compressed and scabrous at the apex (4 a).

Head thickly clothed with wool, standing up and concealing the Eyes from above, these are not large but prominent and globose (7).

Thorax densely clothed with depressed scales. Abdomen a little tufted at the apex in the male, acuminate in the female with a telescopiform ovipositor. Wings very much deflexed when at rest, superior long and lanceolate, inferior ample, the cilia long. Thighs, hinder very short broad and compressed: tibiæ, anterior short with some long hairs on the inside, the others with long spurs at the apex, the posterior long and clothed with fine long hairs outside, with a pair of long spurs near the base: tarsi longer than the tibiæ, basal joint the longest, apical one the shortest: claws very small (8 †, hind leg).

Obs. The description and dissections are from *T. rusticella* Hüb.

Larvæ fleshy, with 6 pectoral, 8 abdominal, and 2 anal feet. Pupæ inclosed in woollen cocoons.

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CORTICELLA Curt. Guide, Gen. 1033. 14.

Fuseous with an ochreous tinge: head clothed with ochreous white hairy scales: superior wings whitish, variegated with irregular and minute ochreous brown and darker spots: with a dark brown spot on the costa at the base, and 2 larger ones beyond, having minute ones between them, and 3 or 4 towards the apex; on the disc is a somewhat triangular ochreous brown mark, with an oblique irregular one towards the posterior margin, with 2 spots on the inferior margin, and 2 or 3 minute ones between them: cilia ochreous brown with 3 yellow spots.

*In the Author's Cabinet.*

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THE maxillary palpi represented in the plate are the longest I have seen; but although they are equal in length to the lobes

of the maxillæ, they are still considerably shorter than the labial palpi. The woolly heads also characterize this group, which in its larva state is, with some few of the *Anacampses*, (fol. 189.) but too well known for the destruction they occasion to every article of woollen manufacture, forming the tubes in which they live and their cocoons of the materials they feed upon. Wherever they take possession, the only chance is to discard everything composed of wool or hair if possible, and those things that are indispensable should be constantly used, or continually brushed and exposed to the light and air. All mattresses, paillasses and sofa-cushions should be knotted with *leather*, not wool; and carpets ought to be cut out where book-cases and heavy furniture stand, so that the edges may be frequently turned up to be well brushed where there is no traffic. Moreen curtains and bed-hangings are very soon attacked if the room be shut up and darkened, and may be greatly injured in a few weeks. Light, the clothes-brush and the cane are, I believe, the easiest and best remedies against the Moth. It is astonishing how soon a house may be infested, for a few old birds'-nests, and even the cocoons of Moths in the Garden, will enable them to feed and propagate, when a female moth finding her way into the house, a colony is soon established that it is very difficult to extirpate.

I have been compelled to forgo having carpets in my chambers from the devastation these little animals made: they were revelling in multitudes under my feet in the day, and flying about my candles by night, and I lately found that myriads had established themselves under the sofa-covers, where they luxuriated on the worsted knots that held the cushions together; they even attacked the small portion of feather on my pens, and my painting-brushes were frequently eaten up by them. This, however, I soon remedied by dipping them into spirits of turpentine, which is certain death to all insects. Cushions, &c., that are infested may be cured by moderate baking. I have observed when my clothes have been attacked that the Moths invariably preferred the black suits; and so rapid are their operations that I have found a caterpillar half grown on removing a coat which I had worn a fortnight before.

Another species (*T. granella*) does incredible mischief in granaries to bonded wheat: in such cases I should imagine that lime-washing the roof and walls, and taking great care that no woollen cloth or yarn be used in mending the sacks, might be beneficial precautions.

There are nearly 20 species of *Timeæ* found in England, a list of which is given in the Guide. The handsome species figured appears to be undescribed; it occurred some years since in considerable abundance on the trunks of trees in Kensington Gardens.

The Plant is *Hieracium sylvaticum* (Wood Hawkweed).







## LEPIDOCERA BIRDELLA.

The Liverpool Feather-horned Tinea.

ORDER Lepidoptera. FAM. Tineidæ.

*Type of the Genus, Tinea Taurella Hüb.*

LEPIDOCERA Ste., Curt.—Ypsolophus Haw.—Tinea Hüb.

*Antennæ* inserted close to the eyes on the crown of the head, composed of many short joints clothed with very long and feathery scales, excepting 8 or 9 of the apical joints (1).

*Maxillæ* extremely short, but slender and spiral (7).

*Labial Palpi* forming two large brushes in front of the head (7, 4), being curved upward, divaricating and clothed (especially beneath) with long clavate scales truncated and serrated at the apex almost concealing the apical joint (\*4): triarticulate, basal joint globose, 2nd rather long and robust, 3rd shorter and slenderer, elongate conic (4a).

Head broad and short. Eyes small and lateral remote and very prominent, shining and irregularly granulated (7). Ocelli large and distinct. Thorax rather small clothed with depressed scales. Wings rather short, the superior very scaly, sublinear and truncated at the apex beyond which the scales form an irregular margin, inferior wings suboval less scaly and producing very long cilia. Abdomen rather long, depressed, clothed with broad depressed scales, the sides margined, the apex somewhat tufted. Legs robust clothed with scales, anterior short, posterior long. Tibiæ; 4 posterior with long spurs at the apex; the hinder pair with two at the centre. Tarsi 5-jointed, basal joint of posterior pair long. Claws distinct and curved (8, a fore leg).

*Obs.* The dissections were taken from the species figured.

BIRDELLA Curtis's Guide, Gen. 1034. 3.

Rough, scaly, dull reddish ochre: antennæ blackish towards the apex: eyes black, scales on the palpi black at their tips: superior wings clouded with blackish scales, except at the base, forming three distinct fasciæ: inferior wings fuscous-cupreous, pale at the base: abdomen sprinkled with fuscous and black down the middle, excepting the base of the 5th annulation which is ochreous: legs variegated with fuscous.

*In the Cabinets of Mr. Bird and the Author.*

No characters of this remarkable little group have yet been published; and although I have a just right to give a name in such a case, I have again adopted one which has lately been proposed, to prevent repetition. My only reason for stating this is, that in numerous instances the characters that

I have been at great labour to detect, have been subsequently employed and published by others, either as their own, or without the slightest acknowledgement \*.

The insects composing this group may be known by their rough appearance, by their bushy heads and scaly horns; but whether this latter character is common to both sexes, I have had no opportunity of ascertaining. The following are British insects.

1. *L. Taurella* *Hüb. pl.* 27. *f.* 188.—*Haw.* 546. 26.

Half the size of No. 3; the palpi are less scaly in proportion; the antennæ are slightly thickened with scales at the middle: superior wings cinereous fuscous, shining, coppery, mottled with blackish scales: inferior wings pale coppery fuscous, light at the base: abdomen dark, shining, with the base of the 5th joint and the apical tuft very pale ochre: hinder tarsi with the joints pale at their tips.

Taken by Mr. Stone the beginning of August, amongst grass and heath in open places near the gravel-pit in Coomb Wood.

2. *L. mediopectinella* *Haw. Lep. Brit. p.* 545. *n.* 25.

Almost as large as the next; the head and antennæ appear to be less scaly: the superior wings are narrower and fuscous-ochre, clouded with darker scales to the base: inferior wings coppery-fuscous, pale at the base: tibiæ and tarsi spotted with ochre.

Taken near London by Mr. J. Hatchett.

3. *L. Birdella* *Curt. Brit. Ent. pl.* 344.

I have the pleasure of dedicating this Moth to the Rev. C. S. Bird, M.A. F.L.S., to whose kind and liberal communications this Work is much indebted. Specimens were found the beginning of last July, resting upon the sides of dry walls at Liverpool: they dropped down when approached.

4. *L.? Chenopodiella* *Hüb. Tinea, pl.* 46. *f.* 320.—Mr. Stephens refers this species to *Lepidocera*; but I have never had an opportunity of examining a specimen.

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\* It requires very little knowledge to make descriptions from the dissections accompanying this Work, and, by transposing words and sentences, to give them a different appearance to the source from whence the knowledge had been drawn. None of the Lepidopterous genera (excepting a few by Savigny) had been dissected till this Work was commenced; and names only were handed to me of *Spilosoma*, *Deiopeia*, *Chariclea*, *Lobophora*, &c., which I adopted in courtesy.







## INCURVARIA MASCULELLA.

The feathered Diamond-back.

ORDER Lepidoptera.

FAM. Tineidæ.

*Type of the Genus, Tinea Masculella Wien. Verz.*

INCURVARIA Haw., Curt.—Esperia Hüb.—Adela Och.—Tinea Fab., Hüb., Haw.

*Antennæ* inserted in front of the crown, near to the eyes, rather long and setaceous, pectinated inside in the male, each joint producing at the apex a spoon-shaped branch, clothed with scales (1); simply covered with scales in the female.

*Maxillæ* spiral (3), rather stout and not half the length of the *Palpi*, which are as long as the labial, incurved, scaly and 6-jointed, 3 basal joints stout, 1st ovate, 2nd elongated, 3rd as long but broader, 4th very long, slender and clavate, 5th not longer than the 1st, subclavate, 6th as long but slender and attenuated (3 a).

*Labial Palpi* small, rather drooping, projecting beyond the head (4), triarticulate, basal joint elongate and a little clavate, 2nd twice as long, rather thickly clothed with scales, but slenderest in the middle when denuded, 3rd joint as long as the 1st, but very slender and fusiform (4 a).

Head *subglobose*, densely tufted and woolly in front and on the crown : eyes small, lateral and globose. Thorax smooth. Abdomen very short and linear in the male, the apex furnished with 2 large horny processes, surrounded with elongated scales, the penultimate joint bristly; attenuated in the female (A, the apex): ovipositor exerted, horny, incurved and acute (o). Wings very much deflexed in repose (N); superior twice as long as the body, lanceolate, inferior much shorter, sub lanceolate: cilia moderate. Tibiæ, anterior short, the others spurred at the apex, hinder pair the longest and very hairy outside, with a pair of spurs near the middle (8 †): tarsi 5-jointed, basal joint elongated: claws and pulvilli minute.

MASCULELLA Wien. Verz.—Curt. Guide, Gen. 1035. 1.

Fuscous, shining; head ochraceous, superior wings purplish, freckled with orange and ferruginous scales, with a nearly orbicular yellowish-white spot near the centre of the interior margin and a subtrigonal one near the posterior angle: inferior wings with a bluish tint freckled with orange.

*In the Author's and other Cabinets.*

THE genus *Incurvaria* of Haworth was found to include the following species, and was characterized by the inflection of the *maxillary palpi*; the *I. tripuncta*, which was included in the Guide in accordance with Mr. Stephens's views, is inadmissible, since the head is clothed with *depressed* scales and

the labial palpi are *slender* and *recurved*; it therefore ought to have been placed with genus 1036. The males of the typical species are characterized by their handsome antennæ, which have only one series of pectinations, each being formed like a spoon. A specimen which I take to be a female has a curious process, which is represented at fig. o.

\* Antennæ pectinated in the males.

1. *masculella* W. V.—*Hüb. Tin.* 18. 125 ♀.—*Curt. Brit. Ent. pl.* 607. ♂; fig. N the natural size.—*musculella* Fab.—*muscula* Haw.

I know of no figure of the male of this elegant little moth, which I have repeatedly met with on the wing in the daytime about white-thorn hedges the middle of May: the female I have found in the New Forest the beginning of June.

2. *pectinella* Fab.—*trigonella*? *Linn. Faun. Suec.* 1373.

Superior wings tawny-fuscous with a whitish obscurely geminated spot before the middle of the interior margin, and another smaller and scarcely visible one behind: 6 lines in expanse. *Haw.*

May, hedges.

\*\* Antennæ stout and filiform in the males.

3. *Oehlmanniella* *Hüb. Tin. pl.* 27. f. 184.

Anterior wings with 2 trigonate very white or silvery spots, the 1st before, the other behind the middle, and a white spot on the costa towards the apex, and almost opposite the 2nd spot on the interior margin: posterior wings black, shining; cilia entirely black: 6—7 lines. *Haw.*

In the vicinity of London.

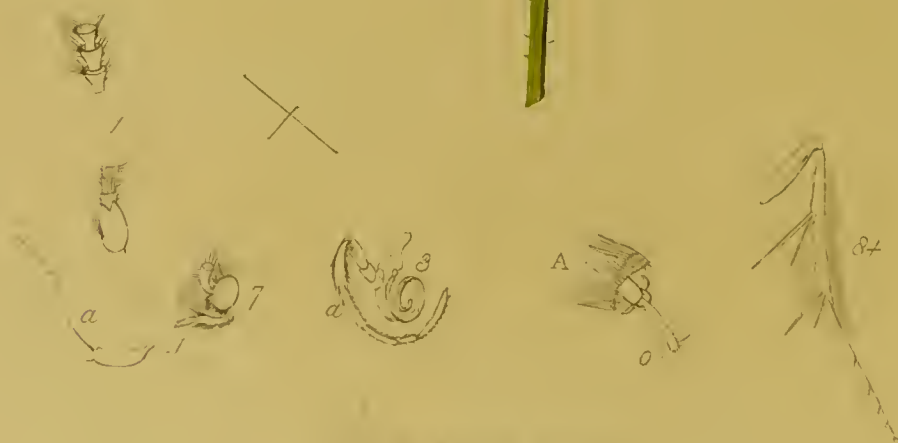
4. *spuria* *Haw.* 560. 4. probably a variety of the last.

Anterior wings somewhat narrower in proportion to their size, paler and less purple, but principally different in the minute white costal spot, which is twice as small, and exactly opposite to the outer one on the inner margin, and further removed from the apex than in the last: agreeing in other respects: 7 lines. *Haw.*

May, Darent Wood, Kent.

The Plant is *Arum maculatum* (Wake-Robin, Cuckow-pint or Lords and Ladies).







## LAMPRONIA LUZELLA.

The four-spotted purple Tinea.

ORDER Lepidoptera.

FAM. Tineidæ.

*Type of the Genus, Tinea rupella Fab.*

LAMPRONIA Ste., Curt.—Euspilapteryx Ste.—Denisia, Galanthia, Antispila, Micropterix Hüb.—Tinea Linn., Fab., Haw., Hüb.

*Antennæ* remote, inserted on each side the forehead near to the eyes, shorter than the body, filiform, the basal joint large and ovate with a brush of hairs on the inside, the other joints tasselled with scales, and producing series of longish hairs in the males: (1 portions of the base and middle): more setaceous and only clothed with scales and very short bristles in the females.

*Maxillæ* spiral and formed of 2 broad flat filaments (3), shorter than the *Palpi* which are long, attenuated, incurved and sealy, composed of 6? joints, 3 basal joints stout, 1st short, 2nd and 3rd much longer, the remainder slender thin and compressed at the apex (3 a).

*Labial Palpi* longer than the maxillary, curved, clothed with scales (4) and triarticulate, basal joint elongated, not stouter than the 2nd, which is nearly twice as long, 3rd about the length of the 1st, elliptico-conical (4 a).

Head tufted, being thickly covered with hairy scales: eyes small and globose. Thorax smooth. Abdomen attenuated, tufted at the apex in the male, with an oviduct sometimes exerted in the female, clothed with hairs at the apex (A 0). Wings ample, deflexed in repose; superior somewhat linear, the apex ovate; inferior more ovate-triangular; cilia rather long. Legs, anterior very short, posterior very long: thighs very short: tibiæ, anterior exceedingly short, intermediate with a long pair of unequal spurs; hinder pair very long, compressed and densely hairy, with a long pair of unequal spurs at the apex, and a longer pair above the middle (8 †): tarsi long, especially the hinder.

LUZELLA Hüb. Tin. pl. 64. f. 430.—Curt. Guide, Gen. 1037. 6.

Brown-black; superior wings with a purple gloss, 2 ochreous spots on the costa, that nearest the base minute, and 2 rather further apart on the interior margin, that nearest the posterior angle the largest and triangular; apex of the cilia whitish: inferior wings with an orange tinge.

*In the Author's and other Cabinets.*

THE deflexed wings and rough woolly head distinguish this genus from a great portion of the Tineidæ; the under wings are broader than usual, and the antennæ of the males are hairy and have a knotted appearance under a lens.

The following are British species :

1. capitella *Linu.*? *Faun. Succ.* 1374.

Middle of May, garden paling, round London.

2. prælatella *Fab.*—*Hüb. pl.* 26. *f.* 251.

Beginning of June, in a copse, Glanville's Wootton, Mr. Dale.

3. rupella *Fab.*—*Hüb. pl.* 36. *f.* 250.

Beginning of June, trunks of dead and barked trees near Lyndhurst: the empty pupæ were protruding in multitudes.

4. luzella *Hüb.*—*Curt. B. E. pl.* 639. ♂.—The *T. flavipunctella* of Haw. is only a *var.* with the basal spots nearly united.

7. melanella *Haw.* 566. 20.

Park paling, Greenhithe, Mr. Robertson.

8. corticella *Linu.*? *Faun. Succ.* 1428.

On Raspberry blossoms, Mr. Chant.

10. subpurpurella *Haw.* 571. 37.

April and May, amongst Oak trees, G. Wootton, Mr. Dale.

11. purpurella *Haw.* 571. 38.—Goldeggella *Hüb.*? 37. 258.

12. auropurpurella *Haw.* 572. 39.—Sparmannella *Fab.*?

13. rubroaurella *Haw.*—fibulella *Fab.*

Withey beds, G. Wootton, Mr. Dale.

14. rubrifasciella *Haw.*—Anderschella *Hüb.* 51. 352. not *T. Hellwigella* referred to by Haworth and Stephens.

End of May, trunks of birch trees, in a wood near Kimp-ton, and on Whitethorns, G. Wootton, Mr. Dale.

15. sanguinella *Haw.* 572. 42.

16. Calthella *Linu.*—pusillella *Hüb. pl.* 50. 341.

May and June, flowers of Ranunculaceæ in pastures, &c.

18. Seppella *Fab.*?—aurella *Hüb.* 38. 262.

13th June, Coomb Wood, and once paired with *L. Calthella*.

19. ammanella *Hüb.* 57. 388.

20. bistrigella *Haw.* 573. 45.

June, a pair on a sallow in Parley Copse, Mr. Dale.

5. marginepunctella, 9. atrella, 17. concinella, and 21. EUSPILAPTERYX auroguttella of Stephens I have never seen.

For specimens of the Small Teasel, *Dipsacus pilosus*, I am indebted to Mr. S. Rootsey of Bristol.





## ERIOCEPHALA CALTHELLA.

The Marsh Marygold Moth, or Small gold Tinca.

ORDER Lepidoptera.

FAM. Tineidæ.

*Type of the Genus, Tinea Calthella Linn.*

ERIOCEPHALA Curt.—Lampronia Curt.—Antispila Hüb.—Tinea Linn.  
Haw., Hüb.

*Antennæ* alike in both sexes, remote, inserted on each side of the forehead towards the eyes, shorter than the body, filiform, hairy beneath, the basal joint large and subovate, 2nd globose, 3rd long and slender, the remainder turbinate (1).

*Maxillæ* very small, short, terminating in an elongated curved lobe (3). *Palpi* much longer than the head, porrected, stout and 5-jointed, two basal joints long and nearly linear, 3rd a little longer and slightly curved, 4th very long, inflated towards the base, attenuated to the apex, 5th the shortest, the apcx conical (a).

*Labial palpi* small, attached to large scapes, triarticulate, basal joint small, 2nd the longest and largest, obovate, 3rd much smaller, subovate (4).

Head rather broad, very short, crown hairy: eyes small and lateral.

Thorax very short, clothed with depressed scales. Abdomen short, the apex of the males furnished with 2 long curved horny appendages with a large and dilated lobe above (A): conical in the female.

Wings deflexed in repose, much longer than the body, ovate-lanceolate: superior (9) with many nervures terminating on the costa and interior margin: inferior with similar nervures on the margins (\*): cilia long, especially the inferior, and surrounding the apex. Legs rather slender, hinder long: thighs short: anterior tibiæ with an internal spine, the others spurred at the apex; hinder curved, with a pair also below the middle: tarsi 5-jointed, basal joint long, terminal short: claws small (8† hind leg).

CALTHELLA Linn.—Curt. Guide, Gen. 1037. 16.

Fuscous black: eyes intense black; antennæ and palpi blackish; crown of head ferruginous-ochre; thorax golden; wings furrowed, superior burnished gold mottled with orange-brown, the base crimson and purple or blue; inferior wings fuscous with a violaceous golden hue: cilia fuscous.

*In the Author's and other Cabinets.*

WHEN *Lampronia* was illustrated, I considered that this genus was disposed of; but the structure of the mouth is so remarkable in the section before us, that no apology is necessary for calling the attention of the student to this group again. I confess having some reason to regret doing so, as I fear it will



set aside the essential character alluded to under Acentria, which I thought would so completely separate Trichoptera from Lepidoptera, namely, the comparative lengths of the maxillary and labial palpi.

It is to Mr. Haliday's acute investigations that we owe the detection of this anomalous group, and I am greatly indebted to him for the valuable materials he has placed in my hands.

On comparing the dissections with those of Lampronia, it will instantly appear that it is impossible to retain the insects to which they belong in the same genus; the extraordinary variation in the form and length of the labial palpi and of the maxillæ, are most important differences.

It will be now advisable to take a more general view of its relationship to the Trichoptera, for, as Mr. Haliday has justly observed, the whole aspect approaches the groups Hydropstila and Narycia. If the larva of *E. Calthella* was known, no question would remain; but even in the absence of that testimony, I think it will be clear that it belongs to the Lepidoptera. The wings are clothed with scales; the maxillæ, though short, are in the situation we find them in the Lepidoptera; the palpi are not hairy, and the anterior tibiæ have an internal spine. The only character, therefore, that makes an approach to Trichoptera, is the relative proportions of the palpi, to which may, perhaps, be added the remarkable neuration of the wings, which is certainly very unlike any other Lepidoptera I have examined, and the caudal appendages of the male are rather singular.

From this review of the affinities to the two orders, although it must be admitted that by this exception the distinctive character, which I imagined was furnished by the palpi, proves no longer to be unobjectionable, still it is not to be altogether disregarded, and I think that the internal spine of the anterior tibiæ, so constantly present in the moths, is nowhere to be found in the Trichoptera; if such be the case, we have a new distinctive character, scarcely of less value than that which we have been obliged to abandon.

A short notice of all the species will be found at fol. 639<sup>b</sup>, under Lampronia, from No. 10. *subpurpurella* to No. 20. *bi-strigella*.

A specimen of *Gagea* (*Ornithogalum*) *lutea*, Yellow Bethlehem Star, from Conisborough, near Doncaster, was communicated by Mr. W. Pamplin, Jun.





## GRACILLARIA ANASTOMOSIS.

## The Lilac slender Moth.

ORDER Lepidoptera. FAM. Tineidæ.

*Type of the Genus, Gracillaria anastomosis Haw.*

GRACILLARIA Haw., Curt.—Ornix Och., Treit.—Tinea Hüb.

*Antennæ* inserted close to the eyes, capillary, nearly as long as the wings, and bent back beneath them when in repose, composed of numerous minute joints, the basal one rather stout.*Maxillæ* spiral, slender and twice as long as the labial palpi (7\*, 3). *Palpi* distinct (7a), slender and clothed with short scales forming a tuft at the apex, triarticulate, basal joint short ovate, 2nd twice as long, 3rd a little longer and curved (3a, the Palpus and a portion of the maxilla).*Labial Palpi* projecting far beyond the head, recurved, slender, tapering and acute, clothed with short scales (4); triarticulate, basal joint the shortest, clavate, 2nd twice as long, curved and subclavate, 3rd longer and subulate (4a).*Head* small subglobose, clothed with depressed shining scales combed over the crown from each side: eyes globose and lateral. *Thorax* small. *Abdomen* short and slender, terminated by a lobe in the males, with a tuft of hair on each side. *Wings*, superior twice as long as the abdomen, elliptical, with very long cilia at the posterior angle; inferior wings shorter and lanceolate, furnished with very long cilia. *Legs*; anterior the shortest, posterior the longest: thighs short, especially the posterior: tibiæ; anterior with an internal spine, intermediate spurred at the apex and densely clothed with long broad scales; posterior with a pair of spurs towards the base, and another pair at the apex, one of them very long: tarsi 5-jointed: claws very minute (8†, hind leg).*Larvæ* with 6 pectoral, 6 abdominal and 2 anal feet; clothed with a few long hairs.*Pupæ* subfusiform.

ANASTOMOSIS Haw. Lep. Brit. 530. 13.—Curt. Guide, Gen. 1038. 3.

Fuscous: antennæ dotted with white: head ochreous, palpi annulated with the same colour: thorax ochreous freckled with brown: abdomen cinereous, apex ochreous; superior wings orange, sometimes with a purple eupreous tinge, freckled with brown, 5 cream-coloured subtrigonal spots on the costa and about the same number on the interior margin with which some of them are occasionally united, the apical one forming a ring, sometimes with a blackish pupil: inferior wings cinereous as well as the fringe, which in the superior wings is variegated a little with white. *Legs* whitish, the thighs and tibiæ variegated with black, and the tips of the joints in the tarsi of the same colour.*In the Author's and other Cabinets.*

GRACILLARIA is distinguished by the singularly tufted intermediate tibiæ, and the attitude in which the moth rests is very striking; this is represented in the outline figure of the natural



size: the larvæ also have only 6 abdominal feet, as shown in the plate, the figure above exhibiting the pupa, and I am not aware that any one has described the maxillary palpi, which are very distinct.

The following observations upon the species figured were communicated to me by the late Mr. E. W. Lewis of Chelsea, whose promising talents and devotion to Entomology render his premature death a loss to science.

"This Moth is double brooded, the first appearing in May from the larvæ of the preceding autumn, the second in July. The eggs are laid in rows consisting of from three to a dozen, and are placed along the nervures on the underside of the Lilac and Privet. In five or six days the eggs are hatched, and the larvæ eat into the leaf, mining to the upper surface, where they eat the parenchyma, leaving the epidermis untouched: about a fortnight after, they leave their mines, and commence rolling the leaves: the roll is fastened on the outside with a few threads, and the ends are drawn close. Here they remain until full grown, eating only half the substance of the leaf, when they drop from the leaves and retire under ground, where they spin a strong case, and in a few days change into pupæ.

"It is principally on trees in shaded situations, and on the ground-shoots and under-branches of others that the mother moth lays her eggs. This insect is very abundant in our neighbourhood; one small tree in our garden they attacked in such numbers that long before they were full grown there was not a green spot remaining."—E. W. Lewis.

Mr. R. Lewis having supplied me with the larvæ whilst feeding on the Lilac, I was able to make the following observations: at first they mine between the plates of the leaves, forming as it were brown blisters upon them; they afterwards roll up the end of the leaf on the underside, fastening it with fine silken threads, as represented in the plate: on opening this roll I have found 6 or 7 larvæ of different sizes, the young ones were dirty flesh-coloured, those nearly matured pale green and darker in the middle; they consume, at this period of their lives, the inferior cuticle of the leaf, and the space is filled with minute black pellets of dung.

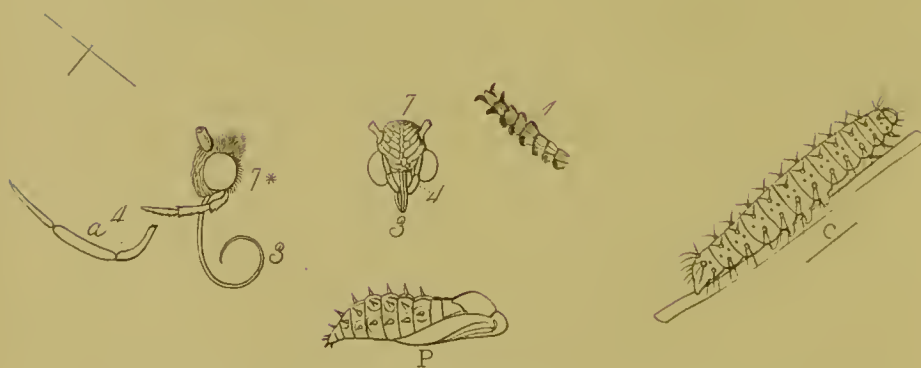
Like most other Lepidoptera, these have their parasite. The *Pimpla stercorator* F. and its larvæ feed upon the caterpillars of *G. anastomosis*, as lately related in a very amusing manner by Mr. Lewis in Loudon's Mag. of Nat. Hist.

A list of the genus *Gracillaria* will be found in the Guide; I have only to observe that the *T. Upupæpenella* Hüb. is the type of Treitschke's genus *Ornix*, that *T. Mayrella* is the female of his *T. signipennella*, and that my No. 18. *G. leucapennella* and 14. *rufipennella* belong to other genera.

For the beautiful Plant figured, *Glaucium violaceum* (Violet horned Poppy), I am indebted to the Rev. Dr. Jermyn of Swaffham Prior, Cambridgeshire.







*Chalcididae*

## CHRYSOCORYS SCISSELLA.

The oblong Gold-head Tinea.

ORDER Lepidoptera.

FAM. Tineidæ.

*Type of the Genus, Tinea scissella Haw.*

CHRYSOCORYS Cart.—Tinea Haw., Hüb.

*Antennæ* rather short, composed of numerous joints, thickly clothed with scales giving them a tasselled or serrated appearance in the males towards the apex, which is very setaceous (1, a few joints beyond the middle).

*Maxillæ* as long as the antennæ, very slender and spiral (3).

*Labial palpi* rather long, projecting horizontally beyond the head, divaricating, slender, attenuated and clothed with short scales (4); triarticulate, basal joint long, slightly curved and clavate, 2nd longer and rather stouter, 3rd the length of the 1st slender and lanceolate (a).

Head *small, globose, clothed with metallic closely depressed scales*: (7 the face, 7 \* the profile): Eyes *rather large and orbicular*. Thorax *small clothed with depressed scales*. Abdomen *short and linear in the male, the apex conical in the female*. Wings *deflexed, superior long, narrow, lanceolate and slightly falcate; inferior narrow and lanceolate, cilia long*. Legs, *hinder the longest*: tibiæ, *anterior very short with a long internal spine; intermediate with long spurs at the apex; hinder the longest, with a pair of very long spurs at the apex and at the middle*: tarsi *5-jointed, basal joint long, apical the shortest*: claws *very minute*.

Larvæ *with 6 pectoral, 8 abdominal and 2 anal feet; tuberculated and bristly* (C). Pupa *papilioniform, with series of dorsal spines* (P), *inclosed in a netted cocoon*. Hüb.

SCISSELLA Haw.—Curt. Guide, Gen. 1039. 1.—Festaliella Hüb. Tin. pl. 67. f. 449?—angustipennella Guide, 1st Edit.

Fuscous, basal joint of palpi and mouth yellow, head and thorax brassy: superior wings ochreous, costa, posterior margin and a line from thence to the base brown, a streak of the same colour along the middle dilated at the centre; abdomen griseous black, silvery white beneath.

*In the Author's and other Cabinets.*

I AM surprised to find that in an elaborate work like Treitschke's *Schmetterlinge von Europa*, no notice is taken that I can see either of *Tinea Scissella* or *T. Festaliella* Hüb. I stated some years since, when I characterized the genus *Chrysocorys* in the *Entomological Magazine*, that I was very doubtful if the insect before us were the *T. Scissella* of Hüb. pl. 39. fig. 270, the wings being of a different shape, and I still entertain the same opinion; it is however unnecessary to supersede Mr. Haworth's name, since if they be different insects, they do not belong to one and the same genus. On the contrary, I have little doubt that Hübner's *Tinea Festaliella*, pl. 67. fig. 449. is a variety only of our insect or at least of the same genus, which has induced me to give outlines of the larva and pupa of that species from his work, in order that their singular figures may be better known. It is clear from them that this Moth is closely allied to the *Pterophori* (pl. 161.), and it is very interesting to mark the similarity of the larva and pupa to those of the *Papilionidæ*. The pupa is inclosed in a cocoon of beautiful lacework which does not conceal it, and in this respect it resembles *Cerostoma Hesperidella* (fol. 420).

This elegantly formed little Moth is found during the spring and summer months; I have met with it as early as the middle of April flying amongst the plants on hedge banks near Glanville's Wootton, the middle of May at Rougham in Suffolk, the middle of June amongst the broom near Coomb Wood, and the end of the same month on brambles in the Isle of Portland.

The Plant is *Thlaspi perfoliatum*, Perfoliate Shepherd's Purse, from the neighbourhood of Slaughter in Gloucestershire, a locality pointed out to me last June by E. F. Witts, Esq.







## ADACTYLUS BENNETII.

The sea-side Plume.

ORDER Lepidoptera. FAM. Tineidæ.

*Type of the Genus, Alucita adactyla Hüb.*

ADACTYLUS Curt.—Alucita Hüb., Treit.

*Antennæ* inserted on the crown of the head close to the eyes, rather short and slender, composed of numerous joints clothed with scales above, and very pubescent beneath in the male (1 ♂); less so in the female.

*Maxilla* slender spiral and nearly as long as the antennæ (3).

*Labial Palpi* curved, densely clothed with scales and truncated, giving them a triangular form towards the apex, with the 3rd joint just visible (4); triarticulate, basal joint long and broad, 2nd short and broad sublunulate, 3rd minute, ovate and truncated obliquely (4a).

Head small, subglobose, with a conical tubercle on the forehead thickly clothed with short scales (7). Eyes small lateral and orbicular. Thorax small, globose and trilobed. Abdomen very long, linear in the male with the apex thickened and lobed; stouter in the female and subfusiform, being narrowed at the base and somewhat conical at the apex. Wings plaited together and erected when at rest, lanceolate, inferior the smallest. Legs slender. Coxæ long. Thighs short. Tibiæ, anterior the shortest, clavate, with a short spine and brush of scales on the inside near the apex, the others spurred at the apex, posterior very long, with a minute pair of unequal spurs below the middle. Tarsi very long, 5-jointed, basal joint very long, 5th not very short. Claws minute but distinct (8†, hind leg).

BENNETII Curt. Guide, Gen. 1039<sup>b</sup>.*In the Author's Cabinet.*

THE *Alucita adactyla* Hüb. having undivided wings, as the latter name implies, I was led to a careful examination of an Insect closely allied to it, when I found its structure so widely different from that of *Pterophorus* (pl. 161.) that I was under the necessity of establishing a genus to comprise them. I have therefore adopted the specific name of Hübner's Insect for the genus, and propose substituting that of the excellent Lepidopterist who first made it known, to designate his species.

Adactylus is distinguished from *Pterophorus* by its undivided wings, the form of the palpi, which are obtuse and

densely clothed with short scales, the very minute spurs to the hinder tibiae, and several other minor differences.

Hübner many years back figured the *Alucita adactyla* before alluded to, in his *Europaischer Schmetterlinge* (*Alucitæ Integræ*, pl. 7. f. 32-34), which I shall here describe as the

*Adactylus Hubneri* Curt.

$4\frac{1}{2}$  lines long; ♂ 10 lines, ♀ nearly 1 inch broad. Lead colour, wings darkest towards the apex, superior with a darker spot towards the apex, and 2 on the inferior margin; the male with a dark spot on the cilia at the anal angle.

This insect has not been taken in England, but I had the good fortune to discover a new species amongst the grass and sea-shore plants that grow on the Salterns at Tollsbury, the end of last July, in an excursion to the coast of Essex with Edward Bennet, Esq., of Rougham Old Hall. When at rest the Moths assumed a most singular attitude, as well as I can remember like the male figured of the natural size at the bottom of the plate; the body hung down, the wings were folded and nearly erect, but divaricating with the legs placed obliquely, resembling so much the dead pieces of grass, that the eye did not readily catch them until they took flight, for which this position was admirably adapted. This interesting Moth I have the pleasure of naming after the friend through whose kindness I had an opportunity of adding this and many other Insects to my Cabinets.

*A. Bennetii* Curt. *Brit. Ent. pl.* 471 ♂ & ♀.

Length  $6\frac{1}{2}$  to  $7\frac{1}{2}$  lines, breadth 1 inch. Reddish cinereous, sometimes with an ochreous tint: eyes black, superior wings with 4 dark spots upon each, 1 towards the base, another nearer the middle, and 2 beyond it approaching the posterior angle: abdomen of female with 5 or 6 pair of black dots down the back.

The Plant is *Carex limosa* (Green-and-gold Carex), communicated by C. J. Paget, Esq., from a bog at Belton, Suffolk.







## PTEROPHORUS SPILODACTYLUS.

## The Wormwood Plume.

ORDER Lepidoptera. FAM. Alucitadæ Leach. Pterophorites Lat.

*Type of the Genus Alueita pentadaetyla Linn.*

PTEROPHORUS Geoff., Lat., Fab., Leach.—Alueita Hüb., Haw.—Phalæna (Alueita) Linn.

*Antennæ* inserted close to the eyes on the crown of the head, setaceous, composed of numerous elongated joints covered with long scales above, sometimes hairy beneath (fig. 1 a); basal joint robust subovate, entirely clothed with scales (1).

*Maxillæ* very long and slender (3).

*Labial palpi* shorter than the head, slender, slightly curved upward, 3-jointed, 1st joint robust, broadest at its base, 2nd not so long, somewhat attenuated, 3rd as long as the 2nd, but more slender (4 & 4 a).

Head globose. Eyes covering the side of the head (7, the head in profile). Wings extended horizontally when at rest, anterior composed of 2, posterior of 3 rays, the abdominal one sometimes having a lobe on the internal side. Abdomen long, slender, linear in the males, subfusiform in the females. Legs long, hinder pair the longest. Coecæ very long. Thighs rather short. Tibiæ, anterior not so long as the basal joint of the tarsus, having a flat process or bundle of scales on the internal side, 2nd pair terminated by two long spurs, 3rd pair very long, being furnished with 2 pair of spurs. Tarsi 5-jointed, basal joint the longest. Claws very minute (8, a fore leg).

Larvæ with 16 feet, sparingly covered with hair.

Pupæ pilose, suspended by a thread.

## SPILODACTYLUS Nob.

White, inclining to straw-colour. Antennæ subochraceous beneath. Eyes blackish. Head thorax and abdomen sometimes rather darker straw-colour. Wings, anterior with the costal margin and the base pale fuscous, a rhomboidal spot at the middle of the costa extending obliquely across the wing, interrupted by the nervure, fuscous; 2 spots near the apex upon the superior plume and 2 or 3 upon the inferior one of the same colour: inferior wings pale fuscous, variegated with whitish; 4 anterior legs above, and thighs of posterior pair fuscous. Beneath white, fuscous at the base of the wings and spotted or variegated with the same colour towards their extremities.

*In the Cabinets of Mr. Sparshall and the Author.*

THE little moths included in the genus *Pterophorus* are remarkable for the delicacy and beauty of their form, the wings being divided and having the appearance of 10 or fewer feathers. Reaumur has given figures of the caterpillar and pupa, which last is remarkable in its form. Mr. Dale has reared a species, and I have found and bred *P. tetradactylus* myself: the perfect insects fly slowly in the evening.

Mr. Haworth's *Lepidoptera Britannica* (in which our species are described with the exception of 5) being in few hands, we shall give the best systematic arrangement of the group we are able.

#### A. Abdominal ray not lobed.

1. *P. tetradactylus* Vill., Haw.
2. *ochrodactylus* Fab.? Haw. Mss.
3. *pentadactylus* Linn., Don. 4. 110.
4. *galactodactylus* Hüb., Haw.—*albodactylus* Fab.
5. *spilodactylus* Nob.
6. *tridactylus* Linn.
7. *citridactylus* Haw. Mss.
8. *leucodactylus* Hüb., Haw., Fab.?
9. *pterodactylus* Linn., Hüb., Haw.
10. *monodactylus* Linn.? Haw., Reaum. 1. 20. f. 7—18.
11. *tephradactylus* Hüb.
12. *bipunctidactylus* Vill., Haw.
13. *fuscodactylus* Vill., Haw.
14. *pallidactylus* Haw.—*ochrodactyla* Hüb.?
15. *migadactylus* Haw., Fab.?
16. *phaeodactylus* Steph. Mss.
17. *lunædactylus* Haw. 477. 10.

#### B. Abdominal ray producing a bundle of scales forming a lobe on the internal margin.

18. *P. didactylus* Linn., Don. 9. 318.— $\beta$ . *heterodactylus* Vill.
19. *rhododactylus* Fab., Hüb.
20. *trigonodactylus* Haw. 478. 13.
21. *calodactylus* Fab., Hüb.
22. *tesseradactylus* Linn.
23. *punctidactylus* Haw. 479. 16.
24. *microdactylus* Sam.—*parvidactyla* Haw.

For a male of the rare species figured we are indebted to Mr. Joseph Sparshall, who met with it in some abundance upon the plant which accompanies it, on the 8th of July 1824, upon a heath near Mildenhall, Suffolk.

The plant is *Artemisia Absinthium* (Common Wormwood).





## ALUCITA HEXADACTYLA.

The twenty-four plume or fan Moth.

ORDER Lepidoptera.

FAM. Alucitidæ *Lea.* Pterophorites *Lat.**Type of the Genus, Alucita hexadactyla Linn.*ALUCITA *Linn., Hüb., Curt.*—Pterophorus *Fab.*—Orneodes *Lat., Oeh.**Antennæ* inserted in front of the crown, close to the eyes, short, very slender and capillary, composed of numerous scaly joints, pubescent beneath (1).*Mandibles* remote, small, elongate-trigonal, ciliated internally.*Maxillæ* spiral, very slender and twice as long as the palpi, but scarcely so long as the antennæ (3).*Labial palpi* rather long, projected considerably beyond the head, triarticulate, basal joint robust, cleaver-shaped, 2nd long, stout, somewhat shuttle-shaped and densely clothed with scales, projecting beyond the apex beneath, 3rd joint recurved, slender, nearly as long as the 2nd, clothed with minute scales (4 and 4 a).

Head globose, densely clothed with hairy scales (7, the profile): eyes globose and prominent: ocelli 2, distinct. Thorax small and round.

Abdomen moderately long, linear and a little tufted at the apex in the male, stouter and conical in the female. Wings expanded like

a fan in repose, each composed of 6 rays, beautifully and densely ciliated on both sides (9 the apical portion). Legs long and slender,

especially the hinder: coxæ, anterior long and stout: thighs, anterior the shortest as well as the tibiæ, these have an internal spine; intermediate with an unequal pair of long spurs at the apex, hinder very long, with a tuft of bristles outside towards the base, a pair of unequal spurs at the apex, and a longer pair a little below the middle (8†): tarsi 5-jointed, basal joint the longest: claws and pulvilli extremely minute.

Larvæ with 6 pectoral, 8 abdominal and 2 anal feet. Pupæ inclosed in transparent silken cocoons. *Lat.*HEXADACTYLA *Linn.—Curt. Guide, Gen. 1041. 1.**In the Author's and other Cabinets.*

THE moths forming this little group are the most beautiful objects that can be conceived when at rest, with their wings



expanding precisely like a fan: there are six rays in each wing, forming as many perfect feathers, which are beautiful even to the naked eye, but when magnified they become still more interesting objects for our contemplation; there are altogether 24 of these feathers, which are in truth the nervures, and being fringed on both sides, when they are expanded these feathers touch, so as to form wings which enable this little animal to fly with ease.

Three species are recorded as British, but I think it is very doubtful whether they be any more than varieties. The specimen figured is unquestionably *A. hexadactyla*, yet the markings agree well with those of the *A. polydactyla* of Hübner.

1. *hexadactyla* Linn.—Curt. Brit. Ent. pl. 695 ♂.

Fuscous ochre freckled with brown: abdominal segments with narrow white margins and a line of black dots down each side: superior wings with 5 violaceous-black spots on the costa margined with ochre, the 3rd uniting with a broader fascia across the middle, having pale edges; a similar but narrower fascia beyond it, vanishing towards the posterior angle: inferior wings with 4 narrow denticulated ochreous lines; the rays dotted with black, all ochreous at the apex with a black dot.

This is common in houses, buildings in gardens, &c. from the end of March to October, and sometimes in the winter also. The larva feeds on the honeysuckle, but I know of no figure of it.

2. *polydactyla* Hüb. Aluc. tab. 6. f. 28 ♀.

“Anterior wings yellowish red, with a violaceous fascia edged with white.”

3. *pœcilodactyla* Ste. Ill. 4. 379. 3.

“Wings cinereous-ochre, with 2 irregular fasciæ and fuscous dots.”

This and No. 2. have been taken in June near Brockenhurst, in the New Forest.

The Plant is *Medicago maculata*, Heart Medick.



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